

# **INTEGRATED CONTINGENCY PLAN**

## **FRP-06-TX-00142**

### **GALVESTON BAY REFINERY**

***March 25, 2013***

**Blanchard Refining Company LLC**  
Galveston Bay Refinery

2401 Fifth Avenue South  
Texas City, TX 77592



Raymond L. Brooks  
Senior Vice President  
Refining

---

## Marathon Petroleum Company LP

539 South Main Street  
Findlay, OH 45840  
Tel: 419.421.2968  
Fax: 419.421.4377

February 9, 2016

Mr. Richard A. Hernandez  
General Manager, Galveston Bay Refinery  
Blanchard Refining Company LLC  
2401 5th Avenue South  
Texas City, TX 77590

Dear Mr. Hernandez:

Re: Appointment as Qualified Individual or Alternate Qualified Individuals Under the Oil Pollution Act of 1990 C33 U.S.C. § 270I *et seq.*) and the Clean Water Act (33 U.S.C. § 1321(j)(5)(D))

I hereby appoint you as General Manager, Galveston Bay Refinery, to act as the Company's "Qualified Individual" and the following persons to act as the Company's "Alternate Qualified Individual" for purposes of Section 4202(a) of the Oil Pollution Act of 1990 and Section 311 (j)(5)(D) of the Clean Water Act (33 U.S.C. § 1321(j)(5)(D)) (including their regulations, and for both federal and state implementation) as to facilities and/or tank vessels owned or operated by the Company in the United States:

Joseph Marra, ES&S Manager  
CP Patsztzis, Operations Manager  
Travis Beltz, Products Control Manager  
Jimmy Laurito, Technical Services Manager  
Mike Henschen, Maintenance Manager  
Tom Hearn, Engineering Manager

You and the Alternate Qualified Individuals are hereby granted full authority and responsibility to implement actions on behalf of the Company, pursuant to the applicable response plan, in the event of a discharge or threatened discharge of oil from said facility(ies) or tank vessel(s) to "navigable waters" (as defined by 33 U.S.C. § 2701(21)). This authority and responsibility includes, but is not limited to:

- (1) Immediately contacting and, if necessary, activating and contracting with oil spill removal organization(s) identified in the applicable response plan;
- (2) Activating personnel and equipment maintained by the Company;
- (3) Immediately communicating with federal and state officials and thereafter acting as a liaison with the designated On-Scene Coordinator (OSC);
- (4) Obligating any funds of the Company required to carry out all required or directed oil spill response activities;
- (5) Preventing or mitigating a substantial threat of an oil spill discharge to navigable waters; and
- (6) Containing and removing oil which has been discharged to navigable waters.

Mr. Richard A. Hernandez  
February 9, 2016  
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This letter supersedes all prior Oil Pollution Act of 1990 Qualified Individual appointment letters for this facility. This letter shall be made part of the emergency response action plans and kept current. The plans shall be submitted to the applicable agencies as required by law.

Very truly yours,

Raymond L. Brooks  
Senior Vice President, Refining

RLB/jd

cc: R. J. Defend  
V.M. King  
P. McCaffrey  
J.R. Wilkins  
Title & Contract

# **EMERGENCY RESPONSE ACTION PLAN**

## **MINI PLAN**

### **GALVESTON BAY REFINERY**

*Prepared for:*

**Blanchard Refining Company LLC**

**Galveston Bay Refinery  
2401 Fifth Avenue South  
Texas City, TX 77592**



# EMERGENCY RESPONSE ACTION PLAN

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## **QUALIFIED AND ALTERNATE QUALIFIED INDIVIDUAL INFORMATION**



Raymond L. Brooks  
Senior Vice President  
Refining

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cc: R. J. Defend  
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## FACILITY INFORMATION

GENERAL INFORMATION	
<b>Facility Name:</b>	Blanchard Refining Company LLC Galveston Bay Refinery
	<b>Physical Address</b> Galveston Bay Refinery 2401 Fifth Avenue South Texas City, TX 77592
<b>Telephone #:</b>	(409) 945-1011
<b>NAICS:</b>	324110
<b>Latitude/Longitude:</b>	29° 22' 28" N/94° 55' 30" W
<b>Owner Name:</b>	Blanchard Refining Company LLC 539 South Main Street Findlay, OH 45840
<b>Qualified Individual:</b>	Richard Hernandez Work Address 2401 Fifth Avenue South Texas City, TX 77592  Emergency Phones      Work: 409-945-1312 Cell:
<b>Alternate Qualified Individual (Duty Incident Commander)</b>	<b>See Page ERAP 8</b>
<b>Telephone/FAX:</b>	Additional telephone references, including 24-hour numbers, for the Facility, Owner, and QI/AQI are provided in Figure 2.2.

**FIGURE 1.3**  
**FACILITY INFORMATION (Cont'd)**

FACILITY LOCATION		
<b>County:</b>	Galveston County	
<b>Area Map:</b>	Provided in Figure 1.1	
<b>Facility Diagram:</b>	Provided in Figure 1.2	
<b>Wellhead Protection Area:</b>	N/A	
<b>Facility Distance to Navigable Water:</b>	< 0.5 miles	
<b>Number of Aboveground Oil Storage Tanks:</b>	371	
<b>Largest Aboveground Oil Storage Tank Capacity (Gallons):</b>	31,500,000	
<b>Maximum Oil Storage Capacity (Gallons):</b>	716,619,787	
<b>Worst Case Oil Discharge Amount (Gallons):</b>	31,500,000	
<b>Facility Distance to Navigable Waters:</b>	 0 – ¼ mile D ¼ - ½ mile	D ½ - 1 mile D >1 mile

## FACILITY DIAGRAM



# NOTIFICATIONS

**FIGURE 2.1**

**INTERNAL NOTIFICATION REFERENCES**

<b>INTERNAL NOTIFICATIONS – GENERAL</b>			
<b>TEXAS CITY SITE</b>	<b>ADDRESS</b>	<b>OFFICE</b>	<b>FAX NUMBER</b>
Galveston Bay Refinery	2401 Fifth Avenue South Texas City, TX 77592	(409) 945-1011	(409) 965-0031

<b>INTERNAL NOTIFICATIONS – FACILITY RESPONSE TEAM</b>						
<b>POSITION/ TITLE</b>	<b>NAME</b>	<b>RESPONSE TIME</b>	<b>OFFICE</b>	<b>EMERGENCY</b>		<b>OTHER</b>
<b><i>Qualified Individual</i></b>	Richard Hernandez	1 Hr	(409) 945-1312		CELL	
<b><i>Duty IC/ Alt. Qual. Ind's</i></b>	Chris Staats CP Patsztzis Austin Fontenot Jimmy Laurito Mike Henschen Tom Hearn	On-call	(409) 682-2700	(409) 682-2700	-----	-----
<b><i>Security Operations Center (SOC)</i></b>		On Site	Ext. 21762 21765	21911	Telephone	Radio Emergency Channel Orange Button

**FIGURE 2.2**

**USCG CLASSIFIED OIL SPILL REMOVAL ORGANIZATIONS**

<b>USCG CLASSIFIED OIL SPILL REMOVAL ORGANIZATIONS (OSRO)</b>			
<b>COMPANY</b>	<b>RESPONSE TIME</b>	<b>LOCATION</b>	<b>TELEPHONE</b>
Garner Environmental Services	1 Hour	La Marque, TX	(800) 424-1716 (24 Hrs.) (409) 935-0308
T&T Marine Salvage Inc.	1 Hour	Galveston, TX	409-744-1222 Fax 409-774-5218

FIGURE 2.3

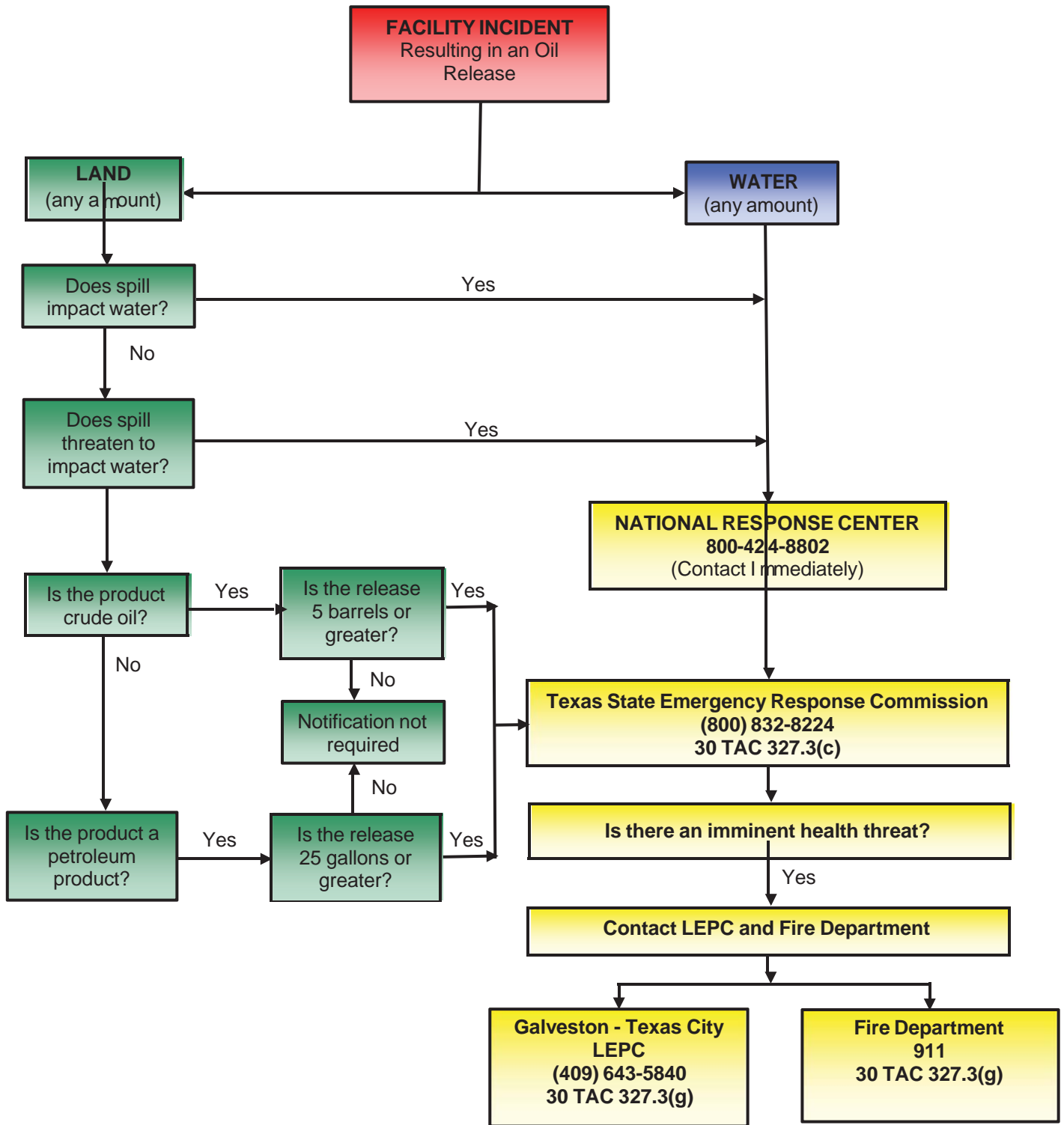
SPILL RESPONSE NOTIFICATION FORM			
Date: _____		Time: _____	
INCIDENT DESCRIPTION			
Reporter's Full Name: _____		Position: _____	
Day Phone Number: <u>Evening</u> _____		Phone Number: _____	
Company: <u>Blanchard Refining</u> _____		Company <u>LLC</u> <u>Organization</u> <u>Blanchard Refining Company LLC</u> <u>Type:</u> _____	
Facility Address: <u>Galveston Bay Refinery</u> _____		Owner's Address: <u>Blanchard Refining Company LLC</u> _____	
<u>2401 Fifth Avenue South</u> _____		<u>539 South Main Street</u> _____	
<u>Texas City, TX 77592</u> _____		<u>Findlay, OH 45840</u> _____	
Facility Latitude: <u>29° 22' 28"N</u> _____		Facility Longitude: <u>94° 55' 30"W</u> _____	
Spill _____		Location: _____	
at _____ (if _____)		not _____	
Facility) _____		Responsible Party's Name: _____	
Responsible _____		Phone Number: _____	
Party's _____		Address: _____	
Source and/or cause of discharge: _____			
_____			
Nearest City: <u>Texas</u> _____ City _____			
County: <u>Galveston</u> _____			
State: <u>Texas</u> _____ Zip Code: <u>77592</u> _____ Section: _____			
Township: _____ Range: _____			
Distance from City: _____ Direction _____ from _____ City: _____			
Container Type: _____			
Container _____ Storage _____ Capacity: _____ Facility _____			
Oil _____ Storage _____ Capacity: _____			
Material: _____			
Total Quantity Released			Water Impact (YES or NO)
_____			_____
_____			Quantity into Water
_____			_____
Weather conditions on scene: _____			
_____			
Action(s) taken to Correct, Control, or Mitigate Incident: _____			
_____			
Number of Injuries: _____		Number _____ of _____ Deaths: _____	
Evacuation(s): _____		Number _____ Evacuated: _____	
_____			
_____			
_____			
CALLER NOTIFICATIONS			
National Response Center (NRC): <u>1-800-424-8802</u> _____			
Additional Notifications (Circle all applicable): <u>USCG</u> <u>EPA</u> <u>State</u> <u>OSHA</u> <u>Other</u> _____			
NRC Incident Assigned No. _____			

Any information about the incident not recorded elsewhere in this report: \_\_\_\_\_

**NOTE: DO NOT DELAY NOTIFICATION PENDING COLLECTION OF ALL INFORMATION.**

**FIGURE 2.4**

**EXTERNAL NOTIFICATION FLOWCHART**



**FIGURE 2.5**  
**EXTERNAL NOTIFICATION REFERENCES**

<b>REQUIRED NOTIFICATIONS</b>	
<b>NATIONAL RESPONSE CENTER</b>	
c/o United States Coast Guard (CG-3RPF-2) – Room 2111-B 2100 2 <sup>nd</sup> Street, SW Washington, DC 20593-0001	(800) 424-8802 (24 Hrs.) (202) 372-2428 (24 Hrs.) (202) 267-2180 (24 Hrs.) (202) 267-1322 (FAX)
<b>REPORTING REQUIREMENTS</b> (40 CFR 110.6 and 33 CFR 153.203) TYPE: Any discharge or sighting of oil on navigable waters. VERBAL: Immediately. WRITTEN: Not required.	
<b>TEXAS STATE EMERGENCY RESPONSE COMMISSION (TERC) / TEXAS COMMISSION OF ENVIRONMENTAL QUALITY</b>	
Austin, TX  (Hotline answered by the Texas Department of Public Safety who will notify TGLO, TCEQ, TRRC, as applicable; follow-up calls to all applicable agencies is advisable.)	(800) 832-8224 (24 Hrs.)
<b>REPORTING REQUIREMENTS</b> (30 TAC Section 327.3(a) and (c) and Section 327.4(b)) TYPE: All spills of oil or petroleum products onto land that meet or exceed 5 barrels for crude oil or 25 gallons for refined products. All spills of oil or petroleum products into water in a quantity sufficient to create sheen. VERBAL: Immediately (31 TAC Section 19.32(b)) WRITTEN: Within 30 days of discovery of a reportable discharge or spill submit TCEQ report to TCEQ Regional Manager (30 TAC Section 327.5(c)). 60 days after the state on-scene coordinator (TXGLOSOSC) directs responsible party or 60 days after response action has been declared complete by SOSC, whichever date is earlier, submit GLO report (31 TAC Section 19.32(b)).	
<b>Texas General Land Office, Region 2</b>	
11811 North D Street La Porte, TX 77571-9135	(281) 470-6597 (Main) (281) 470-6679 (FAX)

<p><b>REPORTING REQUIREMENTS</b> (30 TAC Section 327.3(a) and (c) and Section 327.4(b))</p> <p>TYPE: All spills of oil or petroleum products onto land that meet or exceed 5 barrels for crude oil or 25 gallons for refined products. All spills of oil or petroleum products into water in a quantity sufficient to create sheen.</p> <p>VERBAL: Immediately (31 TAC Section 19.32(b))</p> <p>WRITTEN: Within 30 days of discovery of a reportable discharge or spill submit TCEQ report to TCEQ Regional Manager (30 TAC Section 327.5(c)). 60 days after the state on-scene coordinator (TXGLOSOSC) directs responsible party or 60 days after response action has been declared complete by SOSC, whichever date is earlier, submit GLO report (31 TAC Section 19.32(b)).</p>	
<b>GALVESTON COUNTY LEPC</b>	
1004 9 <sup>th</sup> Ave. N Texas City, TX 77590	(888) 384-2000 (24 Hrs.) (888) 534-5607 (FAX)
<p><b>REPORTING REQUIREMENTS</b> (30 TAC Section 327.3(g))</p> <p>TYPE: Any release, fire, or explosion which creates an imminent health threat outside the facility.</p> <p>VERBAL: Immediately and also to the Fire Department.</p> <p>WRITTEN: As the agency may request, depending on circumstances.</p>	



**FIGURE 2.6****POTENTIAL EXTERNAL NOTIFICATION REFERENCES**

<b>OTHER POTENTIAL NOTIFICATIONS</b>	
<b>U.S. COAST GUARD – MSU TEXAS CITY</b>	
3101 FM 2004 Texas City, TX 77591	(409) 986-2700 (Local) (713) 671-5113 (Houston)
<b>REPORTING REQUIREMENTS</b> (40 CFR 300.300) TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the USCG is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.	
<b>U.S. ENVIRONMENTAL PROTECTION AGENCY REGION VI</b>	
1445 Ross Avenue, Suite 1200 Dallas, TX 75202	(866) 372-7745
<b>REPORTING REQUIREMENTS</b> (40 CFR 300.300) TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the EPA is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.	
<b>U.S. FISH AND WILDLIFE SERVICE</b>	
1849 C Street NW Washington, D.C. 20240-0002	(202) 208-3100 (410) 573-4537
<b>REPORTING REQUIREMENTS</b> (50 CFR 25.72) TYPE: Wildlife Protection / Rehabilitation. VERBAL: Immediately. WRITTEN: As the agency may request depending on circumstances.	
<b>OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)</b>	
200 Constitution Avenue Washington, D.C. 20210	(800) 321-6742
<b>REPORTING REQUIREMENTS</b> (29 CFR 1904.39) TYPE: Fatality from a work related incident or the inpatient hospitalization of three (3) or more employees as a result of a work related incident. VERBAL: Immediately. WRITTEN: As requested by the Agency.	

**FIGURE 2.7****ASSISTANCE/ADVISORY NOTIFICATIONS**

<b>ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)</b>		
<b>AGENCY</b>	<b>LOCATION</b>	<b>TELEPHONE</b>
Federal Bureau of Investigation	Houston, TX Washington, D.C.	(713) 693-5000 (202) 324-3000
Department of Justice	Washington, D.C.	(202) 514-2000
National Weather Service	South Houston, TX	(713) 944-1440 (ext. 2231)
Texas Commission on Environmental Quality	Austin, TX	(800) 832-8229
State Police	Houston, TX	(713) 681-1761
Texas City Emergency Management Office	Texas City, TX	(409) 739-4799
Texas City Fire Department	Texas City, TX	911 (409) 643-5700 (Non-Emergencies)
Texas City Police	Texas City, TX	911 (409) 948-2525 (Non-Emergencies)
Galveston County Health District	La Marque, TX	(409) 938-2286
Radio/Television Evacuation Notice	Texas City, TX	911
Texas City Water Department	Texas City, TX	(409) 643-5860
Galveston County Road and Bridge	Dickinson, TX	(281) 534-4152 (office) (409) 392-1805 (cell) (409) 789-2217 (cell)
Mainland Medical Center	Texas City, TX	911 (409) 938-5000
External Media Notification (G&PA-Ruth Rendon )	Texas City, TX	(409) 949-3122 (office) (409) 370-3211 (cell)
Galveston County Office Of Emergency Management	Dickinson TX	281 390 5003 888 384 2000

FIGURE 2.7

## ASSISTANCE/ADVISORY NOTIFICATIONS (Cont'd)

ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources) (Cont'd)		
AGENCY	LOCATION	TELEPHONE
U.S. Fish & Wildlife Service	Houston, TX	(281) 286-8282
Wildlife Response Service	League City TX	(713) 705 5897
TXGLO Identified Industrial Water Intakes		
Eastman Chemical Co.	Texas City, TX	(409) 945-4431
NRG Texas - Robinson Plant	Bacliff, TX	(281) 316-4343
Texas Copper Corporation	Texas City, TX	Unable to confirm (2007) in business
BP Amoco Chemical	Texas City, TX	(409) 948-1601

## INITIAL RESPONSE ACTIONS

### 3.1 INITIAL RESPONSE ACTIONS (Cont'd)

#### FIRST COMPANY PERSON ON SCENE

- \_\_\_\_\_ For small and controlled incidents, notify personnel responsible for area.
- \_\_\_\_\_ For fire, chemical release, or other emergency requiring FD assistance, notify Security Operations Center (SOC).

#### SECURITY OPERATIONS CENTER

- \_\_\_\_\_ Sound alarm for emergency requiring FD assistance.
- \_\_\_\_\_ Notify appropriate areas.

#### TCS FIRE DEPARTMENT

- \_\_\_\_\_ Respond as the situation demands at Hazmat Technician Level, according to FD procedures.
- \_\_\_\_\_ Perform response/clean-up operations as directed or coordinated by the On-Scene Commander.

FIGURE 3.1

## SPECIFIC INCIDENT RESPONSE CHECKLIST

**Remember, Without Exception, Personnel Safety Is The First Priority. Excessive Exposure To The Vapor And Liquid Stages Of The Spilled Product Should Be Avoided.**

**INITIAL RESPONSE**

- \_\_\_\_ Take appropriate personal protective measures.
- \_\_\_\_ Notify Security Operations Center of the incident.
- \_\_\_\_ Restrict access to the area as the situation demands. Take additional steps necessary to minimize any threat to health and safety.
- \_\_\_\_ Verify the type of product and quantity released.
- \_\_\_\_ Advise personnel in the area of any potential threat and/or initiate evacuation procedures.
- \_\_\_\_ Use testing and sampling equipment to determine potential safety hazards, as the situation demands.
- \_\_\_\_ Identify/Isolate the source and minimize the loss of product.
- \_\_\_\_ Take necessary fire response actions.
- \_\_\_\_ Eliminate possible sources of ignition in the near vicinity of the release.

**INITIAL RESPONSE**

## FIGURE 3.1

## SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

**LINE BREAK OR LEAK, SPECIFIC RESPONSE**

- \_\_\_\_ Notify Security Operations Center of the incident.
- \_\_\_\_ Shut down pumping equipment.
- \_\_\_\_ Close upstream and downstream block valves.
- \_\_\_\_ Initiate emergency shut down procedures.
- \_\_\_\_ Mitigate spreading of the product, as the situation demands.
- \_\_\_\_ Prevent the spill from entering the waterways, sewer, etc. to the greatest extent possible.
- \_\_\_\_ Determine the direction and expected duration of spill movement.
- \_\_\_\_ If located within containment area, ensure that drainage valve(s) is “closed”.
- \_\_\_\_ If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in Section 6.0. Determine which of these may be threatened by the spill and direct the response operation to these locations. Initiate protection and recovery actions.
- \_\_\_\_ Drain the line section, as the situation demands.
- \_\_\_\_ Make all necessary repairs.
- \_\_\_\_ Return line to service when repairs are complete.
- \_\_\_\_ Clean up spilled product to eliminate any possible environmental problems.
- \_\_\_\_ Complete follow-up and written reporting, as the situation demands.

**LINE LEAKS/SPILLS**

## FIGURE 3.1

## SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

**EXPLOSIONS AND/OR FIRE, SPECIFIC RESPONSE****UNIT PERSONNEL**

- \_\_\_\_\_ Respond at operational level in defensive manner.
- \_\_\_\_\_ Contain release from safe distance.
- \_\_\_\_\_ Eliminate potential ignition sources.

**TCS FIRE DEPARTMENT**

- \_\_\_\_\_ Evaluate the situation.
- \_\_\_\_\_ Respond at Hazmat Technician Level according to FD procedures.



FIGURE 3.1

## SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

**STORAGE TANK LEAK, SPECIFIC RESPONSE**

- \_\_\_\_\_ Shut down product movement operations and isolate the tank.
- \_\_\_\_\_ Initiate emergency shut down procedures as applicable.
- \_\_\_\_\_ Ensure that containment area drainage valve(s) is "closed".
- \_\_\_\_\_ Stop all traffic in hazardous area (inside and outside of property boundaries), as the situation demands.
- \_\_\_\_\_ Remove product from containment area (at a sump or in a low area) with an explosion proof pump, oil skimmer, and/or vacuum truck with skimmer attachments.
- \_\_\_\_\_ If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in Section 6.0 and ACP. Determine which of these may be threatened by the spill and direct the response to these locations. Initiate protection and recovery actions.
- \_\_\_\_\_ Determine the direction and expected duration of spill movement. Refer to the maps in Section 6.0.
- \_\_\_\_\_ Empty tank as soon as possible.
- \_\_\_\_\_ Make all necessary repairs. Return the tank to service when repairs are complete and the tank is tested.
- \_\_\_\_\_ Clean up product spill to eliminate any possible environmental problems (e.g. contaminated soil).
- \_\_\_\_\_ Implement disposal procedures based on waste streams generated.
- \_\_\_\_\_ Complete follow-up and written reporting, as the situation demands.

**TANK LEAKS/SPILLS**

## PRODUCT SPECIFIC RESPONSE CONSIDERATIONS

FIGURE 3.2

<b>FLAMMABLE LIQUIDS</b> <b>(Non-Polar/Water-Immiscible)</b> <b>(i.e. Diesel Fuel, Fuel Oil, Petrol, Kerosene)</b>	
The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. <u>The information is intended for guideline purposes only.</u>	
HEALTH	
<b>GUIDE NO.</b> <b>128</b>	<ul style="list-style-type: none"> <li>Inhalation or contact with material may irritate or burn skin and eyes.</li> <li>Fire may produce irritating, corrosive and/or toxic gases.</li> <li>Vapors may cause dizziness or suffocation.</li> <li>Runoff from fire control or dilution water may cause pollution.</li> </ul>
FIRST AID	
<ul style="list-style-type: none"> <li>Move victim to fresh air. Call 911 or emergency medical service.</li> <li>Apply artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.</li> <li>Remove and isolate contaminated clothing and shoes.</li> <li>In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.</li> <li>Wash skin with soap and water.</li> <li>Keep victim warm and quiet.</li> <li>Ensure that medical personnel are aware of the material(s) involved, and take precautions.</li> </ul>	
PUBLIC SAFETY	
<ul style="list-style-type: none"> <li>Isolate spill or leak area immediately for at least 50 meters (150 feet) in all directions.</li> <li>Keep unauthorized personnel away.</li> <li>Stay upwind.</li> <li>Keep out of low areas.</li> <li>Ventilate closed spaces before entering.</li> </ul>	
<b>EVACUATION</b>	<b>Large Spill</b> <ul style="list-style-type: none"> <li>Consider initial downwind evacuation for at least 300 meters (1,000 feet).</li> </ul> <b>Fire</b> <ul style="list-style-type: none"> <li>If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.</li> </ul>
Information provided by the Emergency Response Guidebook 2012.	

FIGURE 3.3

## Substances – Toxic and/or Corrosive (Combustible)

(i.e. Phenol, Sodium Azide, Toluidines, Xylidines, Acid Buityl Phosphate)

The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. The information is intended for guideline purposes only.

### HEALTH

GUIDE NO.  
153

- **TOXIC**; inhalation, ingestion or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

### FIRST AID

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

### PUBLIC SAFETY

- Isolate spill or leak area immediately for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

#### EVACUATION

##### Large Spill

- Consider initial downwind evacuation for at least 300 meters (1,000 feet).

##### Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Information provided by the Emergency Response Guidebook 2012.

FIGURE 3.4

<b>Substances – Toxic and/or Corrosive (Non-Combustible)</b> <b>(i.e. Sodium Fluoride, Hydrogendifluoride, Ferrous Chloride, Cleaning Agents)</b>	
The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. <u>The information is intended for guideline purposes only.</u>	
HEALTH	
<b>GUIDE NO.</b> <b>154</b>	<ul style="list-style-type: none"> <li>• <b>TOXIC</b>; inhalation, ingestion or skin contact with material may cause severe injury or death.</li> <li>• Contact with molten substance may cause severe burns to skin and eyes.</li> <li>• Avoid any skin contact.</li> <li>• Effects of contact or inhalation may be delayed.</li> <li>• Fire may produce irritating, corrosive and/or toxic gases.</li> <li>• Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.</li> </ul>
FIRST AID	
<ul style="list-style-type: none"> <li>• Move victim to fresh air.</li> <li>• Call 911 or emergency medical service.</li> <li>• Give artificial respiration if victim is not breathing.</li> <li>• <b>Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.</b></li> <li>• Administer oxygen if breathing is difficult.</li> <li>• Remove and isolate contaminated clothing and shoes.</li> <li>• In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.</li> <li>• For minor skin contact, avoid spreading material on unaffected skin.</li> <li>• Keep victim warm and quiet.</li> <li>• Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.</li> <li>• Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.</li> </ul>	
PUBLIC SAFETY	
<ul style="list-style-type: none"> <li>• Isolate spill or leak area immediately for at least 50 meters (150 feet) in all directions.</li> <li>• Keep unauthorized personnel away.</li> <li>• Stay upwind.</li> <li>• Keep out of low areas.</li> <li>• Ventilate closed spaces before entering.</li> </ul>	
<b>EVACUATION</b>	<b>Large Spill</b> <ul style="list-style-type: none"> <li>• Consider initial downwind evacuation for at least 300 meters (1,000 feet).</li> </ul> <b>Fire</b> <ul style="list-style-type: none"> <li>• If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.</li> </ul>
Information provided by the Emergency Response Guidebook 2012.	

## EVACUATION PLAN

## **E.1 EVACUATION PLAN**

A condensed version of the Evacuation Plan is provided in the following paragraphs.

In the event of an evacuation, the primary goal is to move people immediately, on foot, to the nearest safe location. Should it become necessary to evacuate people from these facilities, the primary or secondary emergency egress routes will be utilized based on Site conditions at the time of the emergency.

The location of stored materials is identified in the Evacuation Plan Diagram in this Appendix. The hazard imposed by spilled material is dermal contact, inhalation, fire and explosion. Individual Material Safety Data Sheets are maintained separately on-site and provide more specific details.

The spill flow direction is identified in the Process Flow Diagram in SPCC Appendix A.

Evacuation will depend on prevailing winds for this area. Prevailing wind direction is from the south. Where windsocks are present, personnel are instructed to check wind direction in the event of an evacuation. Based on the location, hazard, and wind direction, personnel will alter their evacuation routes to avoid the spilled material or associated vapor cloud.

When a Facility evacuation is initiated, either by the emergency alarm system or by two-way radio, the employees should immediately leave their areas, after the proper shutdown if time allows, and report to their designated head count areas.

After the all clear signal, employees should return to their workstations and safely restart work procedures.

## **E.2 EVACUATION PLAN DIAGRAMS**

Evacuation diagrams are posted at each Unit.

## FACILITY RESPONSE EQUIPMENT



## A.1\*

**FACILITY RESPONSE EQUIPMENT**

Date of Last Update:	Last Inspection or Response Equipment Test Date:
Inspected By:	Last Deployment Drill Date:
Inspection Frequency:	Deployment Frequency:

**SKIMMERS/PUMPS**

Type/Model/Year	Operational Status	Quantity	Capacity gal./min.	Daily Effective Recovery Rate	Storage Location(s)	Date Fuel Last Changed
		NONE				

**BOOM**

Type/Model/Year	Operational Status	Number	Size (Length)	Containment Area	Storage Location(s)
		NONE			

**CHEMICAL DISPERSANTS**

Type	Operational Status	Amount	Date Purchased	Treatment Capacity	Storage Location(s)	Date Changed
		NONE				

\* The Galveston Bay Refinery does not maintain response equipment and relies on contracted OSRO resources to meet OPA90 response resource caps.

FIGURE A.1 (Cont'd)

FACILITY RESPONSE EQUIPMENT (Cont'd)					
Date of Last Update:		Last Inspection or Response Equipment Test Date:			
Inspected By:		Last Deployment Drill Date:			
Inspection Frequency:		Deployment Frequency:			
DISPERSANT DISPENSING EQUIPMENT					
Type/Year	Operational Status	Capacity	Storage Location(s)	Response Time	
	NONE				
SORBENTS					
Type/Year Purchased	Operational Status	Amount	Absorption Capacity gal.	Shelf Life	Storage Location(s)
	NONE				
HAND TOOLS					
Type/Year	Operational Status		Quantity	Storage Location(s)	
	NONE				
COMMUNICATION EQUIPMENT					
Type/Year	Operational Status	Quantity	Storage Location(s)/Number		
	NONE				
FIRE FIGHTING AND PERSONNEL PROTECTIVE EQUIPMENT					
Type/Year	Operational Status	Quantity	Storage Location(s)		
	Firefighting resources will be provided by the Facility's fire brigade and supplemented by local municipal equipment, as needed.				
OTHER EQUIPMENT					
Type/Year	Operational Status	Quantity	Storage Location(s)		
	NONE				

**FIGURE A.2**  
**CONTRACTED RESPONSE RESOURCES**  
**HOUSTON-GALVESTON CAPTAIN OF THE PORT (COTP) ZONE**

USCG Classified Oil Spill Removal Organization (OSRO)							
OSRO Name	Response Time	Environment Type	Facility Classification Level				High Volume Port
			MM	W1	W2	W3	
Garner Environmental Services, Inc.	1 Hour	River/Canal	X	X	X	X	Yes
		Inland	X	X	X	X	
T&T Marine Salvage Inc.	1 Hour	River/Canal	X	X	X	X	Yes
		Inland	X	X	X	X	

Note: Classification ratings were taken from the USCG's Internet site [www.uscg.mil/hq/nsfweb/NSF/onlinedocosro.html](http://www.uscg.mil/hq/nsfweb/NSF/onlinedocosro.html).

# **EMERGENCY RESPONSE ACTION PLAN**

## **GALVESTON BAY REFINERY**

*Prepared for:*

**Blanchard Refining Company LLC**  
Galveston Bay Refinery

2401 Fifth Avenue South  
Texas City, TX 77592

**CERTIFICATION OF THE APPLICABILITY OF THE EPA SUBSTANTIAL HARM CRITERIA**

FACILITY NAME: Blancharg Refining Com[!an LLC – Galveston 85! Befioer \_\_\_\_\_

FACILITY ADDRESS: 2401 Fifth Avenue South, Texas Cit , TX 77592

- |  |     |    |       |
|--|-----|----|-------|
| 1. Does the facility transfer oil over water to or from vessels <u>and</u> does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?  | Yes | No | _____ |
| 2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?  | Yes | No | -."   |
| 3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> is the facility located at a distance (as calculated using the appropriate formula <sup>1</sup> in Attachment C-111 to 40 CFR Part 112 or a comparable formula ) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (59 FR 14713, March 29, 1994) and the applicable Area Contingency Plan. | Yes | No | _____ |
| 4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> is the facility located at a distance (as calculated using the appropriate formula in Attachment C-111 to 40 CFR Part 112 or a comparable formula ) such that a discharge from the facility would shut down a public drinking water intake <sup>2</sup> ?   | Yes | No | -."   |
| 5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons <u>and</u> has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?   | Yes | No | _____ |

<sup>1</sup> If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.<sup>2</sup> For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).**CERTIFICATION**

I certify:

- Under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.



Ray Brooks

Name (please type or print)

Refinery Division Manager

Title

3-22-13

Date

NOTE: The information and procedures in this plan must be treated as guidelines only. The user should determine to what extent it is practical and advisable to follow them. This decision may involve considerations not discussed in this plan. Response Management Associates, Inc. (RMA) provides no liability for injury, loss, or damage of any kind resulting directly or indirectly from the use of the regulatory interpretation, response planning, or information contained in this plan.

**NOTE:** It is the responsibility of the holder of this Plan to ensure that all changes and updates are made. The Plan Holder must:

- Remove and discard obsolete pages.
- Replace obsolete pages with the updated pages.

REVISION RECORD			
CHANGE DATE	REMOVE	INSERT	DESCRIPTION OF CHANGE(S)
	PAGE NUMBER(S)		
May 2008	ALL	ALL	New Plan for TCS developed and distributed by RMA
June 2009	SPCC: ALL	SPCC: ALL	Separation of Refinery and Chemical Plant SPCC Plans
January 2010	SPCC: FWD-IX Appendix A pages	SPCC: FWD-IX, Appendix A pages	Tank Table Revisions (see SPCC FWD-IX)
March 2010	ERAP-4 & 2-2 ERAP-5 & 2-3 ERAP-9 & 2-6 ERAP-10 & 2-8 1-1 3-14 4-1 4-3 6-8 6-10 ALL	ERAP-4 & 2-2 ERAP-5 & 2-3 ERAP-9&10, 2-6 & 2-7 ERAP-11 & 2-9 1-1 3-14 4-1 4-3 6-8 6-10 ALL	Updated Contact information; Updated list of OSRO; Updated list of required notifications; Updated notification list; updated section 1.2; removed null reference from section 3.7; Revised description of qualified individual; Revised bullet list in section 4.6; Revised section 6.6.1; Revised section 6.7.1; Revised footer.
March 2011	ERAP-4 & 10 2-2 3-13 4-1, 4-3, 4-6 5-1		
March 25 2013	ALL	ALL	Ownership change from BP Products to Blanchard Refining Company LLC –Galveston Bay Refinery.
March 04, 2015 REV 1	QI Letter, 2-2, G-2, SPCC Tab Pg 1	QI Letter, ERAP-8,2-2, G-2, SPCC Tab Pg 1, Last page Oil Spill History	QI Personnel Update, Change Database system from Documentum to OpenText. Updated Oil Spill History
July 2016 REV 2	QI Letter after title page and after page ERAP 2. Page ERAP-8. Page 2-2	QI Letter after title page and after page ERAP 2. Page ERAP-8. Page 2-2	QI and AQI Personnel change

DISTRIBUTION LIST	
COPY NUMBER	PLAN HOLDER <sup>1</sup>
1 (signed originals)	Blanchard Refining Company LLC Galveston Bay Refinery Environmental Department File Room 2401 Fifth Avenue South Texas City, TX 77592
Review Copy 1 On-Site	TX GLO (Note <sup>2</sup> )
2	Blanchard Refining Company LLC Galveston Bay Refinery ESB 220, IMT Room 2401 Fifth Ave South Texas City, TX 77592
3	U. S. Environmental Protection Agency – Region 6 1445 Ross Avenue (6SF-RO) Dallas, TX 75202-2733

**NOTE<sup>1</sup>:** The Distribution of this Plan is controlled by the Copy Number located on the front cover or CD label. The Plan Distribution Procedures provided in Section 1.3 and the Plan Review and Update Procedures provided in Section 1.4 should be followed when making any and all changes.

**NOTE<sup>2</sup>:** Internet, mail or fax notification of Facility database changes only; no Plan copy is retained by the Agency.

**Regulatory Cross-References are provided at the end of this document.**

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**FOREWORD**

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# 1.0 INTRODUCTION AND PLAN CONTENT

---

## 1.1 PLAN PURPOSE/OBJECTIVES

The purpose of this Integrated Contingency Plan ("Plan") is to assist the Galveston Bay Refinery ("Facility") personnel prepare for and respond quickly and safely to a discharge originating from the Facility. The Plan provides techniques and guidelines for achieving an efficient, coordinated and effective response to a discharge incident, which may occur at the Facility.

The specific objectives of the Plan are to:

- Establish an emergency response team, assign individuals to fill the positions on the team and define the roles and responsibilities of team members.
- Define notification, activation, and mobilization procedures to be followed when a discharge occurs.
- Define organizational lines of responsibility to be adhered to during a response operation.
- Ensure compliance with certain federal, state, and local regulatory requirements. A summary of the applicable regulations addressed by this plan is provided in Section 1.5.
- Ensure consistency with the National Contingency Plan and Area Contingency Plan(s) for the area of operation.

## 1.2 FORMAT AND SCOPE OF PLAN

This Plan has been developed under the general guidance published in the Federal Register by the EPA entitled "The National Response Team's Integrated Contingency Plan" (61 FR 28642). The NRT guidance was developed in conjunction with the Environmental Protection Agency, Department of Homeland Security (U.S. Coast Guard), Department of the Interior (Minerals Management Service), and the Department of Labor (Occupational Safety and Health Administration). This guidance also provides for state and local contingency planning requirements to be incorporated into the Plan.

This Plan contains procedures for Facility personnel to mitigate or prevent any discharge resulting from the operations of the Facility. A description of the operations conducted at the Facility is provided in Figure 1.2 with additional information provided in the "Hazard Evaluation" located in Appendix C. Facility spill mitigation procedures and response guidelines are provided in Sections 3.0 and 6.0 for discharges that could result from a variety of sources including, but not limited to:

- Tank overfill/failure
- Piping rupture/leak
- Explosion and/or fire
- Tank truck / rail car transfers
- Equipment failure (e.g. system failure etc.)

### 1.3 PLAN DISTRIBUTION PROCEDURES

Distribution will be handled in the following manner:

- Distribution of the Plan is controlled by the number on the front cover or CD label. A Distribution List is provided in the Foreword to facilitate control.
- Company personnel who may be called upon to provide assistance during discharge response activities will have access to a copy of the Plan for their use and training.
- It is the responsibility of any person holding a copy of the Plan to ensure that the copy is transferred to their replacement in the event of reassignment or change in responsibility.
- Applicable regulatory agencies will also be distributed a copy of the Plan or available on-site for review. The list of agencies is provided in the Distribution List.

### 1.4 PLAN REVIEW AND UPDATE PROCEDURES

#### *Annual Review/Update*

The Facility will coordinate the following Plan review and update procedures.

- At least once each year, review and make appropriate revisions as required by operational or organizational changes.
- At least once each year, review relevant portions of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and applicable Area Contingency Plan(s).
- Opportunities may occur during response team tabletop exercises or actual emergency responses that may initiate Plan review/update.

### Federal Agency Review/Revision Requirements

AGENCY TIMING REQUIREMENTS		EPA
Timing for Plan reviews.		Periodically but not to exceed five (5) years.
Timing for submission of significant Plan revisions as detailed in the table below.		60 days

**EPA** - Requires any significant changes that materially may affect the response to a worst case discharge to be submitted within 60 days of the change to the EPA's Regional Office.

## 1.4 PLAN REVIEW AND UPDATE PROCEDURES (Cont'd)

### Federal Agency Review/Revision Requirements (Cont'd)

The Facility shall revise and resubmit revised portions of the Plan for each change that may materially affect the response to a worst case discharge, including:

CONDITIONS REQUIRING CHANGES	EPA
Change in the Facility's configuration that materially alters the information included in the Plan.	
Change in the type of oil handled, stored, or transferred that materially alters the required response resources.	
Material change in capabilities of the Oil Spill Removal Organization(s) (OSROs) that provide equipment and personnel.	
Material change in the Facility's spill prevention and emergency response procedures.	
Any other changes that materially affect the implementation of the Plan.	

### State Agency Review/Revision Requirements

Any agency may require revisions to this Plan at any time if deficiencies are found under their applicable regulations or during an actual response.

**TX GLO** - The Texas General Land Office (GLO) that handles the Discharge Prevention and Response Plan (DPRP) required under the Oil Spill Prevention and Response Act (OSPRA) no longer requires updates to the Plan to be submitted to them and does on-site reviews only. TX GLO requires an annual review of application information and report any changes in the information submitted to the GLO [31TAC § 19.14]. Changes must be reported by the anniversary of the date the certificate was issued. Changes should be submitted by Internet. If Internet access is not available, mail or fax changes to the GLO regional office on the Distribution List.

#### *Incorporation of Plan Revisions*

The **Plan Holder**, immediately upon receipt of any revisions, shall:

- Review and insert the revised pages into the Plan.
- Discard the obsolete pages.

## 1.5 REGULATORY COMPLIANCE

The development, maintenance, and utilization of this Plan implements Company policy and addresses the following regulatory requirements and guidelines:

- Federal Oil Pollution Act of 1990: U.S. EPA Final Rule for Non-Transportation Related On-shore Facilities as published in 40 CFR Part 112.20.
- Texas General Land Office - Discharge Prevention and Response Plans - 31TAC § 19.13.

## 1.5 REGULATORY COMPLIANCE (Cont'd)

This Plan is consistent with the most recent version of the applicable Area Contingency Plans (ACPs). The applicable ACPs for the Facility are:

- U.S. Environmental Protection Agency - Region 6, Regional Integrated Contingency Plan.
- U.S. Coast Guard - One Plan and Sector Houston-Galveston.

This Plan is consistent with the most recent version of the National Contingency Plan (NCP). The NCP for the Facility is:

- U.S. Environmental Protection Agency; National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule [as amended August 2, 2000].



## FIGURE 1.1

### AREA MAP






## FIGURE 1.3

### FACILITY INFORMATION

GENERAL INFORMATION	
<b>Facility Name:</b>	Blanchard Refining Company LLC Galveston Bay Refinery
<b>Physical Address</b>	Galveston Bay Refinery 2401 Fifth Avenue South Texas City, TX 77592
<b>Telephone #:</b>	(409) 945-1011
<b>NAICS:</b>	324110
<b>Latitude/Longitude:</b>	29° 22' 28" N/94° 55' 30" W
<b>Owner Name:</b>	Blanchard Refining Company LLC 539 South Main Street Findlay, OH 45840
<b>Qualified Individual:</b>	Richard Hernandez Work Address 2401 Fifth Avenue South Texas City, TX 77592
	Emergency Phones      Work: 409-945-1312 Cell:
<b>Alternate Qualified Individual (Duty Incident Commander)</b>	See Section 2.0 Page 2.-2 ERAP
<b>Telephone/FAX:</b>	Additional telephone references, including 24-hour numbers, for the Facility, Owner, and QI/AQI are provided in Figure 2.2.

**FIGURE 1.3**  
**FACILITY INFORMATION (Cont'd)**

<b>FACILITY LOCATION</b>		
<b>County:</b>	Galveston County	
<b>Area Map:</b>	Provided in Figure 1.1	
<b>Facility Diagram:</b>	Provided in Figure 1.2	
<b>Wellhead Protection Area:</b>	N/A	
<b>Facility Distance to Navigable Water:</b>	< 0.5 miles	
<b>Number of Aboveground Oil Storage Tanks:</b>	371	
<b>Largest Aboveground Oil Storage Tank Capacity (Gallons):</b>	31,500,000	
<b>Maximum Oil Storage Capacity (Gallons):</b>	716,619,787	
<b>Worst Case Oil Discharge Amount (Gallons):</b>	31,500,000	
<b>Facility Distance to Navigable Waters:</b>	 0 – ¼ mile	D ½ - 1 mile
	D ¼ - ½ mile	D >1 mile

**FIGURE 1.3****FACILITY INFORMATION (Cont'd)****PHYSICAL DESCRIPTION – GENERAL*****Description of Operation:***

- The Facility covers approximately 1,200 acres and processes approximately 450,000 barrels of crude oil each day.
- The Facility produces gasoline, distillates, aromatic hydrocarbons, and petroleum coke.
- Crude oil is received from both pipelines and marine transport.
- Process units and storage tanks within the complex are interconnected through aboveground pipelines.
- Approximately 330 barrels per week are delivered by truck each week.
- Products from the Refinery are shipped through pipelines or marine transport.
- There are nine (9) docks at the Marine Facility that are serviced by 10 product lines, 5 crude lines, and 1 black oil line. These are Docks 32, 33, 34, 37, 38, 40, 41, 54A and 54E. Two 30-inch crude lines service Docks 40 and 41. The docks are covered in a separate plan for purposes of USCG and TXGLO.
- During transfer operations, the maximum number of combinations for lines in service at any given time is nine (9) product lines, four (4) crude lines, and one (1) black oil line.

***Date of Initial Storage:*** 1933

***Date of Ownership:*** 2013

**FIGURE 1.3**  
**FACILITY INFORMATION (Cont'd)**

**DATES AND TYPES OF SUBSTANTIAL EXPANSIONS**

- 1933 – Construction of No. 1 Pipestill completed
- 1934 – No. 1 Thermal Cracking Unit. (First dock shipments begin)
- 1940 – Hydroformer Completed (built to support WWII)
- 1943 – Toluene and Alkylation 2 units complete (toluene unit demo 1970s)
- 1944 – No. 1 FCCU
- 1947 – Pipestill Chemical Plant A (down) site for sale
- 1947 – Acquired the adjacent Stone Oil Company
- 1953 – No. 2 FCCU
- 1955 – No. 1 Ultraformer completed (demoed 1970s)
- 1958 – No. 2 Ultraformer completed (converted to isom 1984)
- 1960 – Coker A
- 1963 – Ammonia Plant No. 1
- 1965 – Resin 18 (demoed 1990s)
- 1961 – Pipestill 3A
- 1964 – No. 3 FCCU
- 1967 – Ultraformer 3 – Ultracracker
- 1968 – Aromatics Recovery Unit – Pipestill 3B – Coker B
- 1969 – Ammonia Plant No. 2 (shutdown 1980)
- 1969 – Polybutene (dismantled 2004)
- 1969 – Sulfuric Acid Plant
- 1971 – Ultraformer 4
- 1972 – First Receipt of Foreign Crude Oil
- 1973 – Propylene Concentration
- 1974 – Stratten Ridge Storage Facilities
- 1975 – Coker C
- 1976 – Distillate Desulfurization Units 100-200
- 1977 – Crude Dock 41 opens
- 1978 – Second Stage Hydrotreater (SSHT)
- 1978 – No. 3 HDPE (since then torn down)
- 1983 – SRU C&D Train
- 1983 – Hydrogen No. 1 (Ammonia Plant No. 1 Converted)
- 1983 – FCCU Feed hydrotreating and sulfur recovery CFHU
- 1984 – ISOM converted from UU2
- 1984 – SRU Sour Water Stripper
- 1984 – Resid Hydrotreating and ISOM
- 1984 – Hydrogen No. 2 (Ammonia Plant No. 2 Converted)
- 1985 – CB Cogeneration Unit
- 1985 – Alky 3
- 1986 – Power 4 Cogen – Refinery self sufficient in steam & electrical power generation

**FIGURE 1.3****FACILITY INFORMATION (Cont'd)**

<b>DATES AND TYPES OF SUBSTANTIAL EXPANSIONS</b>	
•	1992 – Crogenic Hydrogen Recovery (HRU) – Resid Deasphaltine Unit (RDU)
•	1993 – Distillate Desulfurization Unit 300
•	1995 – Aromatics Unit #2 (AU2)
•	2003 – Naphtha Desulfurization Unit (NDU)
•	2003 – Green Power 2
•	2004 – SHU
•	2004 – Praxair Hydrogen Unit #3
•	2004 – Hydrogen Unit #2 - Demo
•	2005 – Distinctive Compliance Project
•	2006 – Praxair Hydrogen #4

## 2.0 NOTIFICATION PROCEDURES

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This Section is a guide for notification procedures that should be implemented immediately after discovering a discharge incident of **petroleum products** and, if possible, securing the source. Internal and external notifications are described separately for clarification purposes only. All notifications are of extreme importance and must be completed in a timely manner.

### 2.1 INTERNAL NOTIFICATION

The following internal notifications should be made for each emergency incident to the extent that the incident demands. In no event shall notification be delayed because the immediate supervisor is inaccessible. Authorization is given to bypass management levels if necessary to provide timely notification to appropriate management. The typical notification responsibilities for each person potentially involved in the initial response are listed below.

**Person Discovering the Discharge or Person receiving First Report of Discharge** (*Any release to the environment (air, water, or soil) or that has the potential to impact the community*).

- For Fire Department assistance, immediately turn in Fire Alarm to Security Operations Center (SOC) by phone [dial 1911] or by radio [Channel 9-1-1].
- SOC will sound the appropriate alarm.

#### **Security**

- Initiate internal notifications as the situation warrants. (Contact information is listed in Figure 2.2).
- Notify Texas Police City Dispatcher that alarm has sounded or that an incident is occurring, as the situation warrants. (Contact information is listed in Figure 2.2)
- Initiate notifications per security procedures including EH&S on-call, administrative duty manager, and the public affairs representative.

### 2.2 EXTERNAL NOTIFICATION

- Notify all regulatory/governmental agencies and other external organizations (contact information is listed in Figure 2.5). A form containing information needed to collect before reporting and a notification record is provided in Figure 2.3. Document all communication in form).
- Notify other agencies and local community, as the situation demands. (Contact information is listed in Figure 2.6 - 2.7).

**FIGURE 2.1**  
**INTERNAL NOTIFICATION REFERENCES**

INTERNAL NOTIFICATIONS – GENERAL						
TEXAS CITY SITE	ADDRESS	OFFICE	FAX NUMBER			
Galveston Bay Refinery	2401 Fifth Avenue South Texas City, TX 77592	(409) 945-1011	(409) 965-0031			

INTERNAL NOTIFICATIONS – FACILITY RESPONSE TEAM						
POSITION/ TITLE	NAME	RESPONSE TIME	OFFICE	EMERGENCY		OTHER
<b>Qualified Individual</b>	Richard Hernandez	1 Hr	(409) 945-1312		CELL	
<b>Duty IC/ Alt. Qual. Ind's</b>	Joseph Marra CP Patsztzis Travis Beltz Jimmy Laurito Mike Henschen Tom Hearn	On-call	(409) 682-2700	(409) 682-2700	-----	-----
<b>Security Operations Center (SOC)</b>		On Site	Ext. 21762 21765	21911	Telephone	Radio Emergency Channel Orange Button

FIGURE 2.2

## USCG CLASSIFIED OIL SPILL REMOVAL ORGANIZATIONS

USCG CLASSIFIED OIL SPILL REMOVAL ORGANIZATIONS (OSRO)			
COMPANY	RESPONSE TIME	LOCATION	TELEPHONE
Garner Environmental Services	1 Hour	La Marque, TX	(800) 424-1716 (24 Hrs.) (409) 935-0308
T&T Marine Salvage Inc.	1 Hour	Galveston, TX	(409) 744-1222 (281) 480-5757 Fax (409) 774-5218



# SPILL RESPONSE NOTIFICATION FORM

Galveston Bay Refinery

FIGURE 2.4

## EXTERNAL NOTIFICATION FLOWCHART

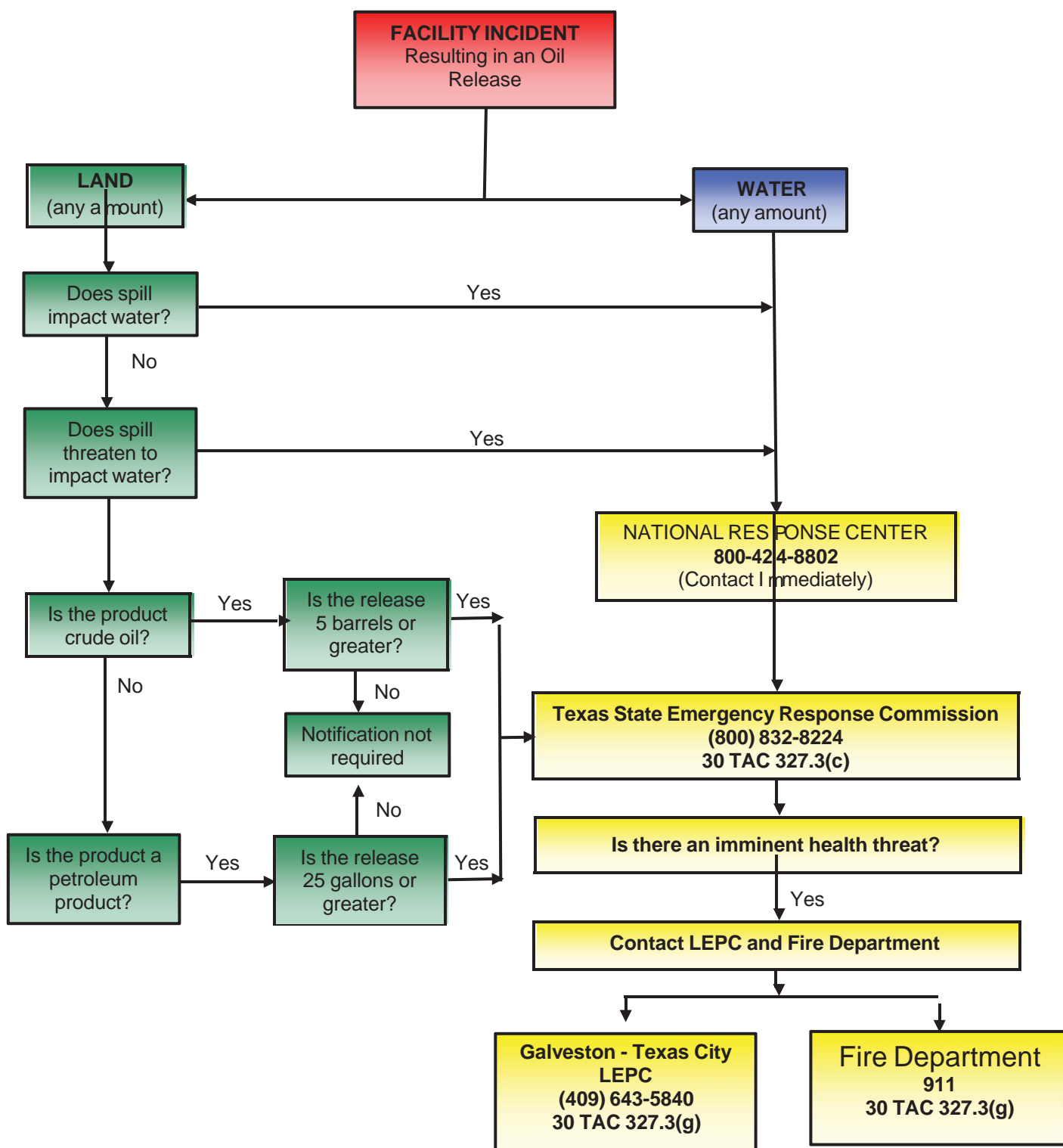


FIGURE 2.5

## EXTERNAL NOTIFICATION REFERENCES

REQUIRED NOTIFICATIONS	
<b>NATIONAL RESPONSE CENTER</b>	
c/o United States Coast Guard (CG-3RPF-2) – Room 2111-B 2100 2 <sup>nd</sup> Street, SW Washington, DC 20593-0001	(800) 424-8802 (24 Hrs.) (202) 372-2428 (24 Hrs.) (202) 267-2180 (24 Hrs.) (202) 267-1322 (Fax)
<b>REPORTING REQUIREMENTS</b> (40 CFR 110.6 AND 33 CFR 153.203) TYPE: Any discharge or sighting of oil on navigable waters. VERBAL: Immediately. WRITTEN: Not required.	
<b>TEXAS STATE EMERGENCY RESPONSE COMMISSION (TERC) / TEXAS COMMISSION OF ENVIRONMENTAL QUALITY</b>	
Austin, TX  (Hotline answered by the Texas Department of Public Safety who will notify TGLO, TCEQ, TRRC, as applicable; follow-up calls to all applicable agencies is advisable.)	(800) 832-8224 (24 Hrs.)
<b>REPORTING REQUIREMENTS</b> (30 TAC Section 327.3(a) and (c) and Section 327.4(b)) TYPE: All spills of oil or petroleum products into water and/or discharges onto land that meet or exceed 5 barrels for crude oil or 25 gallons for refined products. VERBAL: Immediately (31 TAC Section 19.32(b)) WRITTEN: Within 30 days of discovery of a reportable discharge or spill submit TCEQ report to TCEQ Regional Manager (30 TAC Section 327.5(c)). 60 days after the state on-scene coordinator (TXGLOSOSC) directs responsible party or 60 days after response action has been declared complete by SOSC, whichever date is earlier, submit GLO report (31 TAC Section 19.32(b)).	
<b>Texas General Land Office, Region 2</b>	
11811 North D Street La Porte, TX 77571-9135	(281) 470-6597 (MAIN) (281) 470-6679 (FAX)
<b>REPORTING REQUIREMENTS</b> (30 TAC Section 327.3(a) and (c) and Section 327.4(b)) TYPE: All spills of oil or petroleum products into water and/or discharges onto land that meet or exceed 5 barrels for crude oil or 25 gallons for refined products. VERBAL: Immediately (31 TAC Section 19.32(b)) WRITTEN: Within 30 days of discovery of a reportable discharge or spill submit TCEQ report to TCEQ Regional Manager (30 TAC Section 327.5(c)). 60 days after the state on-scene coordinator (TXGLOSOSC) directs responsible party or 60 days after response action has been declared complete by SOSC, whichever date is earlier, submit GLO report (31 TAC Section 19.32(b)).	

GALVESTON COUNTY LEPC	
1004 9 <sup>th</sup> Ave. N Texas City, TX 77590	(888) 384-2000 (24 Hrs.) (888) 534-5607 (FAX)
<b>REPORTING REQUIREMENTS</b> (30 TAC Section 327.3(g)) TYPE: Any release, fire, or explosion which creates an imminent health threat outside the facility. VERBAL: Immediately and also to the Fire Department. WRITTEN: As the agency may request, depending on circumstances.	

FIGURE 2.6

## POTENTIAL EXTERNAL NOTIFICATION REFERENCES

OTHER POTENTIAL NOTIFICATIONS	
<b>U.S. COAST GUARD – MSU Texas City</b>	
3101 FM 2004 Texas City, TX 77591	(409) 978-2700 (Local) (713) 671-5113 (Houston)
<b>REPORTING REQUIREMENTS</b> (40 CFR 300.300) TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the USCG is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.	
<b>U.S. ENVIRONMENTAL PROTECTION AGENCY REGION VI</b>	
1445 Ross Avenue, Suite 1200 Dallas, TX 75202	(866) 372-7745
<b>REPORTING REQUIREMENTS</b> (40 CFR 300.300) TYPE: Immediately for all spills that impact or threaten navigable water or adjoining shoreline. VERBAL: Notification to the EPA is typically accomplished by the call to the NRC. WRITTEN: As the agency may request depending on circumstances.	
<b>U.S. FISH AND WILDLIFE SERVICE</b>	
1849 C STREET NW Washington, D.C. 20240-0002	(202) 208-3100 (410) 573-4537
<b>REPORTING REQUIREMENTS</b> (50 CFR 25.72) TYPE: Wildlife Protection / Rehabilitation. VERBAL: Immediately. WRITTEN: As the agency may request depending on circumstances.	
<b>OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)</b>	
200 Constitution Avenue Washington, D.C. 20210	(800) 321-6742
<b>REPORTING REQUIREMENTS</b> (29 CFR 1904.39) TYPE: Fatality from a work related incident or the inpatient hospitalization of three (3) or more employees as a result of a work related incident. VERBAL: Immediately. WRITTEN: As requested by the Agency.	

**FIGURE 2.7**  
**ASSISTANCE/ADVISORY NOTIFICATIONS**

<b>ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources)</b>		
<b>AGENCY</b>	<b>LOCATION</b>	<b>TELEPHONE</b>
Federal Bureau of Investigation	Houston, TX Washington, D.C.	(713) 693-5000 (202) 324-3000
Department of Justice	Washington, D.C.	(202) 514-2000
National Weather Service	South Houston, TX	(713) 944-1440 (ext. 2231)
Texas Commission on Environmental Quality	Austin, TX	(800) 832-8229
State Police	Houston, TX	(713) 681-1761
Texas City Emergency Management Office	Texas City, TX	(409) 739-4799
Texas City Fire Department	Texas City, TX	911 (409) 643-5700 (Non-Emergencies)
Texas City Police	Texas City, TX	911 (409) 948-2525 (Non-Emergencies)
Galveston County Health District	La Marque, TX	(409) 938-2286
Radio/Television Evacuation Notice	Texas City, TX	911
Texas City Water Department	Texas City, TX	(409) 643-5860
Galveston County Road and Bridge	Dickinson, TX	(281) 534-4152 (office) (409) 392-1805 (cell) (409) 789-2217 (cell)
Mainland Medical Center	Texas City, TX	911 (409) 938-5000
External Media Notification (G&PA-Ruth Rendon )	Texas City, TX	(409) 949-3122 (office) (409) 370-3211 (cell)
Galveston County Office Of Emergency Management	Dickenson TX	281 390 5003 888 384 2000

**FIGURE 2.7**  
**ASSISTANCE/ADVISORY NOTIFICATIONS (Cont'd)**

<b>ASSISTANCE/ADVISORY NOTIFICATIONS (outside resources) (Cont'd)</b>		
<b>AGENCY</b>	<b>LOCATION</b>	<b>TELEPHONE</b>
U.S. Fish & Wildlife Service	Houston, TX	(281) 286-8282
Wildlife Response Service	League City TX	(713) 705 5897
<b>TXGLO Identified Industrial Water Intakes</b>		
Eastman Chemical Co.	Texas City, TX	(409) 945-4431
NRG Texas - Robinson Plant	Bacliff, TX	(281) 316-4343
Texas Copper Corporation	Texas City, TX	Unable to confirm (2007) in business
BP Amoco Chemical	Texas City, TX	(409) 948-1601

## 3.0 RESPONSE ACTIONS

### 3.1 INITIAL RESPONSE ACTIONS

Initial response actions (Figure 3.1) are those taken by operations personnel and GBR Fire Department (FD) immediately upon becoming aware of a discharge or emergency incident, before the Incident Management Team (IMT) (described in Section 4.0) is formed and functioning. Timely implementation of these initial steps is of the utmost importance because they can greatly affect the overall response operation.

The pages that follow discuss initial response actions. These emergencies are discussed in the order listed below:

- Leaks/Spills
- Fire/Explosions

It is important to note that these actions are intended only as guidelines. The appropriate response to a particular incident may vary depending on the nature (Fig. 3.2 through 3.4) and severity of the incident and on other factors that are not readily addressed. Note that, without exception, personnel and public safety is first priority.

The first Company person on scene will function as the person-in-charge until relieved by an authorized supervisor. Transfer of command will take place as more senior management respond to the incident. The Fire Department Team Leader will assume the role of On-Scene Commander.

The person functioning as Incident Commander during the initial response period has the authority to take the steps necessary to control the situation and must not be constrained by these general guidelines.

#### INITIAL RESPONSE ACTIONS - SUMMARY

- Personnel and Public Safety is first priority
- Eliminate sources of ignition
- Isolate the source of the discharge, minimize further flow
- Activate Fire Department as necessary



FIGURE 3.1

**SPECIFIC INCIDENT RESPONSE CHECKLIST**

**Remember, Without Exception, Personnel Safety Is The First Priority. Excessive Exposure To The Vapor And Liquid Stages Of The Spilled Product Should Be Avoided.**

**INITIAL RESPONSE**

- \_\_\_\_ Take appropriate personal protective measures.
- \_\_\_\_ Notify Security Operations Center of the incident.
- \_\_\_\_ Restrict access to the area as the situation demands. Take additional steps necessary to minimize any threat to health and safety.
- \_\_\_\_ Verify the type of product and quantity released.
- \_\_\_\_ Advise personnel in the area of any potential threat and/or initiate evacuation procedures.
- \_\_\_\_ Use testing and sampling equipment to determine potential safety hazards, as the situation demands.
- \_\_\_\_ Identify/Isolate the source and minimize the loss of product.
- \_\_\_\_ Take necessary fire response actions.
- \_\_\_\_ Eliminate possible sources of ignition in the near vicinity of the release.

**INITIAL**

### 3.1 INITIAL RESPONSE ACTIONS (Cont'd)

#### FIRST COMPANY PERSON ON SCENE

- \_\_\_\_ For small and controlled incidents, notify personnel responsible for area.
- \_\_\_\_ For fire, chemical release, or other emergency requiring FD assistance, notify Security Operations Center (SOC).

#### SECURITY OPERATIONS CENTER

- \_\_\_\_ Sound alarm for emergency requiring FD assistance.
- \_\_\_\_ Notify appropriate areas.

#### TCS FIRE DEPARTMENT

- \_\_\_\_ Respond as the situation demands at Hazmat Technician Level, according to FD procedures.
- \_\_\_\_ Perform response/clean-up operations as directed or coordinated by the On-Scene Commander.

## FIGURE 3.1

## SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

**LINE BREAK OR LEAK, SPECIFIC RESPONSE**

- \_\_\_\_\_ Notify Security Operations Center of the incident.
- \_\_\_\_\_ Shut down pumping equipment.
- \_\_\_\_\_ Close upstream and downstream block valves.
- \_\_\_\_\_ Initiate emergency shut down procedures.
- \_\_\_\_\_ Mitigate spreading of the product, as the situation demands.
- \_\_\_\_\_ Prevent the spill from entering the waterways, sewer, etc. to the greatest extent possible.
- \_\_\_\_\_ Determine the direction and expected duration of spill movement.
- \_\_\_\_\_ If located within containment area, ensure that drainage valve(s) is “closed”.
- \_\_\_\_\_ If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in Section 6.0. Determine which of these may be threatened by the spill and direct the response operation to these locations. Initiate protection and recovery actions.
- \_\_\_\_\_ Drain the line section, as the situation demands.
- \_\_\_\_\_ Make all necessary repairs.
- \_\_\_\_\_ Return line to service when repairs are complete.
- \_\_\_\_\_ Clean up spilled product to eliminate any possible environmental problems.
- \_\_\_\_\_ Complete follow-up and written reporting, as the situation demands.

**LINE LEAKS/SPILLS**

**FIGURE 3.1****SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)****EXPLOSIONS AND/OR FIRE, SPECIFIC RESPONSE****UNIT PERSONNEL**

- \_\_\_\_\_ Respond at operational level in defensive manner.
- \_\_\_\_\_ Contain release from safe distance.
- \_\_\_\_\_ Eliminate potential ignition sources.

**TCS FIRE DEPARTMENT**

- \_\_\_\_\_ Evaluate the situation.
- \_\_\_\_\_ Respond at Hazmat Technician Level according to FD procedures.

## FIGURE 3.1

## SPECIFIC INCIDENT RESPONSE CHECKLIST (Cont'd)

**STORAGE TANK LEAK, SPECIFIC RESPONSE**

- \_\_\_\_\_ Shut down product movement operations and isolate the tank.
- \_\_\_\_\_ Initiate emergency shut down procedures as applicable.
- \_\_\_\_\_ Ensure that containment area drainage valve(s) is “closed”.
- \_\_\_\_\_ Stop all traffic in hazardous area (inside and outside of property boundaries), as the situation demands.
- \_\_\_\_\_ Remove product from containment area (at a sump or low area) with an explosion proof pump, oil skimmer, and/or vacuum truck with skimmer attachments.
- \_\_\_\_\_ If the spill escapes the containment area, review the location of socio-economic and environmentally sensitive areas identified in Section 6.0 and ACP. Determine which of these may be threatened by the spill and direct the response to these locations. Initiate protection and recovery actions.
- \_\_\_\_\_ Determine the direction and expected duration of spill movement. Refer to the maps in Section 6.0.
- \_\_\_\_\_ Empty tank as soon as possible.
- \_\_\_\_\_ Make all necessary repairs. Return the tank to service when repairs are complete.
- \_\_\_\_\_ Clean up product spill to eliminate any possible environmental problems (e.g. contaminated soil).
- \_\_\_\_\_ Implement disposal procedures based on waste streams generated.
- \_\_\_\_\_ Complete follow-up and written reporting, as the situation demands.

**TANK LEAKS/SPILLS**

FIGURE 3.2

<b>FLAMMABLE LIQUIDS</b> <b>(Non-Polar/Water-Immiscible)</b> <b>(i.e. Diesel Fuel, Fuel Oil, Petrol, Kerosene)</b>	
The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. <u>The information is intended for guideline purposes only.</u>	
HEALTH	
<b>GUIDE NO.</b> <b>128</b>	<ul style="list-style-type: none"> <li>Inhalation or contact with material may irritate or burn skin and eyes.</li> <li>Fire may produce irritating, corrosive and/or toxic gases.</li> <li>Vapors may cause dizziness or suffocation.</li> <li>Runoff from fire control or dilution water may cause pollution.</li> </ul>
FIRST AID	
<ul style="list-style-type: none"> <li>Move victim to fresh air. Call 911 or emergency medical service.</li> <li>Apply artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.</li> <li>Remove and isolate contaminated clothing and shoes.</li> <li>In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.</li> <li>Wash skin with soap and water.</li> <li>Keep victim warm and quiet.</li> <li>Ensure that medical personnel are aware of the material(s) involved, and take precautions.</li> </ul>	
PUBLIC SAFETY	
<ul style="list-style-type: none"> <li>Isolate spill or leak area immediately for at least 50 meters (150 feet) in all directions.</li> <li>Keep unauthorized personnel away.</li> <li>Stay upwind.</li> <li>Keep out of low areas.</li> <li>Ventilate closed spaces before entering.</li> </ul>	
<b>EVACUATION</b>	<b>Large Spill</b> <ul style="list-style-type: none"> <li>Consider initial downwind evacuation for at least 300 meters (1,000 feet).</li> </ul> <b>Fire</b> <ul style="list-style-type: none"> <li>If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.</li> </ul>
Information provided by the Emergency Response Guidebook 2012.	

FIGURE 3.3

<b>Substances – Toxic and/or Corrosive (Combustible)</b> <b>(i.e. Phenol, Sodium Azide, Toluidines, Xylidines, Acid Buityl Phosphate)</b>	
The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. <u>The information is intended for guideline purposes only.</u>	
HEALTH	
<b>GUIDE NO.</b> <b>153</b>	<ul style="list-style-type: none"> <li>• <b>TOXIC</b>; inhalation, ingestion or skin contact with material may cause severe injury or death.</li> <li>• Contact with molten substance may cause severe burns to skin and eyes.</li> <li>• Avoid any skin contact.</li> <li>• Effects of contact or inhalation may be delayed.</li> <li>• Fire may produce irritating, corrosive and/or toxic gases.</li> <li>• Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.</li> </ul>
FIRST AID	
<ul style="list-style-type: none"> <li>• Move victim to fresh air.</li> <li>• Call 911 or emergency medical service.</li> <li>• Give artificial respiration if victim is not breathing.</li> <li>• <b>Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.</b></li> <li>• Administer oxygen if breathing is difficult.</li> <li>• Remove and isolate contaminated clothing and shoes.</li> <li>• In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.</li> <li>• For minor skin contact, avoid spreading material on unaffected skin.</li> <li>• Keep victim warm and quiet.</li> <li>• Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.</li> <li>• Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.</li> </ul>	
PUBLIC SAFETY	
<ul style="list-style-type: none"> <li>• Isolate spill or leak area immediately for at least 50 meters (150 feet) in all directions.</li> <li>• Keep unauthorized personnel away.</li> <li>• Stay upwind.</li> <li>• Keep out of low areas.</li> <li>• Ventilate closed spaces before entering.</li> </ul>	
<b>EVACUATION</b>	<b>Large Spill</b> <ul style="list-style-type: none"> <li>• Consider initial downwind evacuation for at least 300 meters (1,000 feet).</li> </ul> <b>Fire</b> <ul style="list-style-type: none"> <li>• If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.</li> </ul>
Information provided by the Emergency Response Guidebook 2012.	

FIGURE 3.4

<b>Substances – Toxic and/or Corrosive (Non-Combustible)</b> <b>(i.e. Sodium Fluoride, Hydrogendifluoride, Ferrous Chloride, Cleaning Agents)</b>	
The following information is intended to provide the initial responder(s) with data that may be useful in making quick decisions and executing prompt response actions. <u>The information is intended for guideline purposes only.</u>	
HEALTH	
<b>GUIDE NO.</b> <b>154</b>	<ul style="list-style-type: none"> <li>• <b>TOXIC</b>; inhalation, ingestion or skin contact with material may cause severe injury or death.</li> <li>• Contact with molten substance may cause severe burns to skin and eyes.</li> <li>• Avoid any skin contact.</li> <li>• Effects of contact or inhalation may be delayed.</li> <li>• Fire may produce irritating, corrosive and/or toxic gases.</li> <li>• Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.</li> </ul>
FIRST AID	
<ul style="list-style-type: none"> <li>• Move victim to fresh air.</li> <li>• Call 911 or emergency medical service.</li> <li>• Give artificial respiration if victim is not breathing.</li> <li>• <b>Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.</b></li> <li>• Administer oxygen if breathing is difficult.</li> <li>• Remove and isolate contaminated clothing and shoes.</li> <li>• In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.</li> <li>• For minor skin contact, avoid spreading material on unaffected skin.</li> <li>• Keep victim warm and quiet.</li> <li>• Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.</li> <li>• Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.</li> </ul>	
PUBLIC SAFETY	
<ul style="list-style-type: none"> <li>• Isolate spill or leak area immediately for at least 50 meters (150 feet) in all directions.</li> <li>• Keep unauthorized personnel away.</li> <li>• Stay upwind.</li> <li>• Keep out of low areas.</li> <li>• Ventilate closed spaces before entering.</li> </ul>	
<b>EVACUATION</b>	<b>Large Spill</b> <ul style="list-style-type: none"> <li>• Consider initial downwind evacuation for at least 300 meters (1,000 feet).</li> </ul> <b>Fire</b> <ul style="list-style-type: none"> <li>• If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.</li> </ul>
Information provided by the Emergency Response Guidebook 2012.	



## 3.2 DOCUMENTATION OF INITIAL RESPONSE ACTIONS

It is difficult, particularly during the first few minutes of an initial response operation, to think about the importance of documentation. A log should be maintained that documents the history of the events and communications that occur during the response. When recording this information, it is important to remember that the log may become instrumental in legal proceedings, therefore:

- Record only facts, do not speculate.
- Do not criticize the efforts and/or methods of other people/operations.
- Do not speculate on the cause of the spill.
- Do not skip lines between entries or make erasures. If an error is made, draw a line through it, add the correct entry above or below it, and initial the change.
- Record the recommendations, instructions, and actions taken by government/regulatory officials.
- Document conversations (telephone or in person) with government/regulatory officials.
- **Request that government/regulatory officials document and sign their recommendations or orders (especially if Company personnel do not agree with the suggestions, instructions, or actions).**

## 3.3 OIL CONTAINMENT, RECOVERY AND DISPOSAL

After initial response has been taken to stop further spillage and notifications made to the required agencies, the Company will begin spill containment, recovery, and disposal operations.

The Incident Commander will assess the size and hazards of the spill. The type of product, the location of the spill, and the predicted movement of the spill will be considered to determine appropriate response and recovery actions.

Based on this assessment, additional clean-up personnel and equipment will be dispatched to the site and deployed to control and contain the spill. Boom may be deployed in waterways to contain the spill and to protect socio-economic and environmentally sensitive areas. Booms may also be used in waterways to deflect or guide the spill to locations where it can more effectively be cleaned up using skimmers, vacuum trucks, or sorbent material. Clean-up equipment and material will be used in the manner most effective for rapid and complete clean-up of all spilled product.

Response and cleanup will continue until all recoverable product is removed, the environment is returned to its pre-spill state, and the unified command of the Company Incident Commander and the Federal and/or State On-Scene Coordinators determine that further response and cleanup is no longer necessary.

### 3.4 STORAGE/DISPOSAL

Strict rules designed to ensure safe and secure handling of waste materials govern the Company waste disposal activities. To ensure proper disposal of recovered oil and associated debris, the following guidelines should be considered:

- Oily debris will be segregated on site and containerized for temporary storage prior to disposal in accordance with Company procedures and all State and Federal regulations.
- All waste generated from an unauthorized discharge of oil will be removed from temporary staging area(s) within 14 days of the completion of all response operations (31 TAC Section 19.36(c)).
- Transportation of waste material will be performed in accordance with all applicable Federal and State guidelines.
- Waste associated with the spill will be disposed at Company pre-approved sites that have the necessary permits to accept the type of waste to be disposed. (See Appendix F - Disposal Plan for more information).

### 3.5 SAMPLING AND WASTE ANALYSIS PROCEDURES

The Company's sampling and waste analysis practices are governed by the regulations for the applicable State and the United States Environmental Protection Agency (EPA). These regulations outline methods and procedures for determining the chemical and physical characteristics of wastes generated by the Facility, including waste associated with spills, so that they may be properly stored, treated, or disposed.

### 3.6 SAFETY AWARENESS

It is the corporate policy of the Company to provide a safe workplace for all workers. All employees and contractors are responsible for maintaining the safety and health of all workers at the Facility and the response operations.

Prior to engaging in any spill response activity:

- All employees/contractors must have received orientation using the Site Safety Plan (SSP) developed for the incident using ICS Form 208 or appropriate form.
- All contractor response personnel must be in compliance with OSHA training requirements.
- All other personnel will have completed appropriate training for their position as outlined in Appendix D.
- No employee/contractor shall engage in activities which place them at risk without the appropriate protective equipment and training.

### 3.6 SAFETY AWARENESS (Cont'd)

#### 3.6.1 General Response Safety

All Company and contractor personnel are expected to comply with the Site Safety Plan for each spill incident.

- Any concern regarding health or safety issues should be immediately addressed.
- The First Responder must consider the spill site as dangerous and the local atmosphere explosive until air monitoring procedures prove that the area is safe.
- The First Responder must exit the area against or across the wind, if possible, and must also evacuate others who are working in the area.
- All injuries, no matter how minor, must be reported in a timely manner.
- Prior to entering a spill area, a qualified person must perform an initial safety and health evaluation of the site.

#### 3.6.2 Air Monitoring

It is imperative that air monitoring equipment is operated and their data interpreted by trained personnel thoroughly familiar with the equipment.

- The air monitoring equipment should be calibrated in compliance with manufacture recommendation.
- Air monitoring measurements that are to be made prior to entry into the spill area include:
  - Lower Explosive Limit (LEL)
  - Oxygen content
- LEL readings above 10% require immediate evacuation of the area and elimination of ignition sources.
- Oxygen readings below 19.5% require the use of air supplied respiratory protection.
- Where unknown and multiple contaminants are present, instrument readings should be interpreted conservatively.
- The Incident Commander is responsible for industrial hygiene monitoring in the post discovery period.

### 3.6 SAFETY AWARENESS (Cont'd)

#### 3.6.3 Decontamination

Establishing "Exclusion - Hot", "Decontamination - Decon", and "Support - Safe" zones are required to prevent the removal of contaminants from the contaminated area as well as unauthorized entry into contaminated areas.

- Regardless of the decontamination facilities available, all efforts to minimize personnel exposure should be taken.
- Decontamination facilities should be positioned prior to employee/ contractor entrance to areas where the potential for exposure to contamination exists. The appropriate Material Safety Data Sheets (MSDS) are available to aid health professionals treating the injured parties. MSDSs are separately maintained at the Facility.
- Decontamination facilities should be designed to prevent further contamination of the environment and should have a temporary storage area for items that will be reused in the contaminated area.
- Particular attention should be paid to personal hygiene prior to eating, drinking, or smoking.

#### 3.6.4 Personal Protective Equipment (PPE)

The following represents OSHA/EPA designated PPE levels for responding to emergencies, post emergency cleanup sites, and/or Temporary Storage and Disposal (TSD) sites. The responder's PPE should be chosen based on the hazard encountered.

Personal Protective Equipment (PPE)	
<b><u>LEVEL A</u></b> <ul style="list-style-type: none"> <li>• Self Contained Breathing Apparatus (SCBA) (worn inside suit)</li> <li>• Encapsulated Chemical Protective Suit</li> <li>• Chemical Protective Gloves</li> <li>• Chemical Protective Boots</li> <li>• Hard Hat</li> </ul>	<b><u>LEVEL B</u></b> <ul style="list-style-type: none"> <li>• SCBA (worn outside suit)</li> <li>• Chemical Protective Suit w/Hood</li> <li>• Chemical Protective Boots</li> <li>• Chemical Protective Gloves</li> <li>• Hard Hat</li> </ul>
<b><u>LEVEL C</u></b> <ul style="list-style-type: none"> <li>• Air Purifying Respirator (APR)</li> <li>• APR ½ Face / Full Face</li> <li>• Hard Hat</li> <li>• Glasses (worn with ½ face APR)</li> <li>• Chemical Protective Boots</li> <li>• Chemical Protective Gloves</li> <li>• Chemical Protective Suit/Tyvek</li> </ul>	<b><u>LEVEL D</u></b> <ul style="list-style-type: none"> <li>• Hard Hat</li> <li>• Safety Glasses</li> <li>• Work Uniform / Clothes</li> <li>• Leather Gloves</li> <li>• Safety Boots</li> </ul>
<b><u>MODIFIED LEVEL C</u></b> Same as Level C except no APR requirements.	

### 3.7 EMERGENCY MEDICAL TREATMENT AND FIRST AID

On-site emergency medical response requires the same rapid assessment of the patient as any other situation, but requires the responders to be aware of other considerations that may affect the way they handle the patient. These considerations include the following:

- The potential for contamination of the patient, responders, and equipment should be addressed. Responders should arrange to treat all patients **AFTER** the injured party has been decontaminated according to the Site Safety Plan.
- Site personnel should make the initial assessment of the patient and determine the severity of the injury/illness.
- If the treatment needed is critical care or "life saving" treatment, rapid decontamination of the injured/ill party should be started. Refer to the Site Safety Plan for steps to be taken in an "abbreviated" decontamination for medical treatment.
- **The need for full decontamination should be carefully weighed against the need for prompt medical treatment.**
- The ambulance responding to medical emergencies shall be contacted as soon as possible and instructed exactly where to respond when needed and the nature of the contaminant.
- MSDS information will be available from the Incident Commander and should be provided to medical personnel to alert them of decontamination requirements.
- If emergency medical treatment is needed, the Incident Commander, or his designated representatives, will request assistance from trained medical personnel.

## 4.0 RESPONSE TEAMS

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### 4.1 INTRODUCTION

This section describes organizational features and duties of the Qualified Individual, Tactical Response Teams (TRTs), the Incident Management Team (IMT) and, the Corporate Emergency Response Team (CERT).

The key to an effective emergency response is a rapid, coordinated, tiered response by the affected Unit, the TRT, the IMT/CERT and the Oil Spill Removal Organization (OSRO), consistent with the magnitude of an incident.

First response to an incident at the Facility will be provided by the Tactical Response Team (TRT). If a response exceeds the TRT's capabilities, the IMT will be activated as needed.

The U.S. Occupational Safety and Health Administration (OSHA) requires that organizations that respond to emergencies involving hazardous materials adopt a nationally recognized Incident Command System [29 CFR 1910.120(q)(3)(i)]. The GBR Incident Management System (IMS) is based upon *The National Incident Management System (NIMS)*, as developed by the Department of Homeland Security. Personnel assigned specific positions on response teams are thoroughly familiar with their roles and responsibilities, and participate in specified training programs and exercises simulating oil spill events.

The GBR will use the NIMS Incident Command System (ICS) to manage the emergency response activities. Because ICS is a management tool that is readily adaptable to incidents of varying magnitude, it will typically be used for all emergency incidents. Staffing levels will be adjusted to meet specific response team needs based on incident size, severity, and type of emergency.

An explanation of ICS and the roles and responsibilities for primary members of the response teams are provided in the GRR Incident Management Plan (maintained separately). The MPC Incident Management Handbook (IMH) contains an in-depth description of all ICS positions, ICS development, response objectives and strategies, command responsibilities, ICS specific glossary/acronyms, resource typing, the IAP process, and meetings.

### 4.2 QUALIFIED INDIVIDUAL

The Qualified Individual (QI) is responsible for the full implementation of the Facility Response Plan, and is trained for these responsibilities. The designated Alternate Qualified Individual (AQI) provides relief to the QI as needed. The QI is responsible for implementing response plans, directing response operations, and resolving internal conflicts that arise during response operations either directly or through the use of qualified designees.

## 4.2 QUALIFIED INDIVIDUAL (Cont'd)

It is the responsibility of the Qualified Individual (QI) or his/her designee to coordinate with the Federal On-Scene Coordinator (FOSC) and State On-Scene Coordinator (SOSC) throughout the response.

Vital duties of the Qualified Individual (QI) include:

- Activate internal alarms and hazard communication systems to notify all Facility personnel.
- Notify all response personnel, as needed.
- Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification.
- Notify and provide necessary information to the appropriate Federal, State, and Local authorities with designated response roles, including the National Response Center (NRC), State Emergency Response Commission (SERC), and local response agencies.
- Assess the interaction of the spilled substance with water and/or other substances stored at the Facility and notify response personnel at the scene of that assessment.
- Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion).
- Assess and implement prompt removal actions to contain and remove the substance released.
- Coordinate rescue and response actions as previously arranged with all response personnel.
- Activate and engage in contracting with oil spill removal organizations.
- Use authority to immediately access Company funding to initiate cleanup activities.
- Direct cleanup activities until properly relieved of this responsibility.
- Arrangements will be made to ensure that the QI or the AQI is available on a 24-hour basis and is able to arrive at the Facility in a reasonable time.
- The AQI shall replace the QI in the event of his/her absence and have the same responsibilities and authority.

### 4.3 TACTICAL RESPONSE TEAM (TRT)

The Tactical Response Teams (TRTs) are the GBR Fire Department or other designated contractors. The TRTs are available 24/7 to handle emergencies and are composed of a specialized group of GBR personnel trained to respond to fires, HAZMAT, and spill response. See list of OSROs in Figure 2.2. The number of positions/personnel required for any response will depend on the size and complexity of the incident with the purpose of protecting people, the environment and property from the effects of an incident or release.

### 4.4 INCIDENT MANAGEMENT TEAM (IMT)

When an incident's magnitude, complexity or financial exposure exceeds the TRT, the IMT will be activated. The IMT is also a local team, that when activated, manages incident operations, supports the tactical responders, addresses tasks best handled at the IMT level, and interfaces with and provides information to external parties. The IMT is composed of personnel proficient in NIMS ICS to support the TRTs as required. The duties and procedures of the IMT are detailed in the GBR's Incident Management Plan (IMP) and Marathon Petroleum Corporation's, Incident Management Handbook (IMH) that are maintained separately.

### 4.5 CORPORATE EMERGENCY RESPONSE TEAM (CERT)

When resources or expertise exceeds the capabilities of the IMT and external support is required, the IMT activates the Corporate Emergency Response Team (CERT). The CERT supports the emergency operations, where needed, and address crisis implications of the incident and emergency response operations. CERT is established to assure that total corporate resources, support and response management were available to communicate, respond to and manage major emergencies that may occur at GBR. CERT has three primary duties:

1. Provide support to Local Management in a Major Emergency.
2. Notify and advise Executive management concerning a Major emergency.
3. Provide Response Management Team assistance, including the capability of Tier II Team assistance and/or a Strike Team taking command of the response.

The CERT is activated by calling **877-627-5463** and the operator will connect with the CERT Leader.

### 4.6 INCIDENT COMMAND SYSTEM

The GBR Incident Command System is intended to be used as an emergency management tool to aid in mitigating all types of emergency incidents. This system is readily adaptable to very small emergency incidents as well as more significant or complex emergencies. The Incident Command System utilizes the following criteria as key operational factors:

- Assigns overall authority to one individual.
- Provides structured authority, roles and responsibilities during emergencies.



- Communications are structured.
- There is a structured system for response and assignment of resources.
- The system provides for expansion, escalation, and transfer/transition of roles and responsibilities.

#### 4.6 INCIDENT COMMAND SYSTEM (Cont'd)

- The system allows for "Unified Command" where agency involvement at the command level is required.

Effective establishment and utilization of the Incident Command System during response to all types of emergencies can:

- Provide for increased safety.
- Shorten emergency mitigation time by providing more effective and organized mitigation.
- Cause increased confidence and support from Local, State, and Federal public sector emergency response personnel.
- Provide a solid cornerstone for emergency planning efforts.

Descriptions of each ICS position, the primary responsibilities, and pre-emergency planning activities are provided in the MPC's IMH.

#### 4.7 UNIFIED COMMAND

As a component of an ICS, the Unified Command (UC) is a structure that brings together the Incident Commanders of all major organizations involved in the incident to coordinate an effective response while still meeting their own responsibilities. The UC links the organizations responding to the incident and provides a forum for the Responsible Party and responding agencies to make consensus decisions. Under the UC, the various jurisdictions and/or agencies and responders may blend together throughout the organization to create an integrated response team. The ICS process requires the UC to set clear objectives to guide the on-scene response resources.

Multiple jurisdictions may be involved in a response effort utilizing Unified Command. These jurisdictions could be represented by any combination of:

- Geographic boundaries.
- Government levels.
- Functional responsibilities.
- Statutory responsibilities.

The participants of the UC for a specific incident will be determined taking into account the specifics of the incident and existing response plans and/or decisions reached during

the initial meeting of the UC. The UC may change as an incident progresses, in order to account for changes in the situation.

The UC is responsible for overall management of an incident. The UC directs incident activities and approves and releases resources. The UC structure is a vehicle for coordination, cooperation and communication that is essential to an effective response.

#### **4.7 UNIFIED COMMAND (Cont'd)**

UC representatives must be able to:

- Agree on common incident objectives and priorities.
- Have the capability to sustain a 24-hour-7-day-a-week commitment to the incident.
- Have the authority to commit agency or Company resources to the incident.
- Have the authority to spend agency or Company funds.
- Agree on an incident response organization.
- Agree on the appropriate Command and General Staff assignments.
- Commit to speak with “one voice” through the Public Information Officer or Joint Information Center.
- Agree on logistical support procedures.
- Agree on cost-sharing procedures.

## 5.0 RESPONSE PLANNING

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### 5.1 INCIDENT ACTION PLAN

Emergency response activities are planned and coordinated through the use of an Incident Action Plan (IAP) that is developed for each Operational Period of a response by the Incident Management Team. For small responses, an ICS 201 may be used as the IAP and developed for all incidents.

For larger or more complex incidents, a more complete IAP will be necessary. These IAPs are generally created through the completion and compilation of several standard ICS forms. ICS Forms are available electronically in IAP software maintained separately.

Depending on the nature and severity of the emergency, additional documents may be included in the IAP. These may include:

- Sensitivity Maps (Provided in Section 6).
- Waste Management & Disposal Plans (Provided in Appendix F).
- Plans for use of Alternative Technologies (Dispersant/In-situ Burn/Bioremediation).
- Security Plans.
- Decontamination Plans.
- Traffic Plans.

### 5.2 SITE SAFETY PLAN

Site Safety Plans (SSP) are required by OSHA (29 CFR 1910.120(b)(4)) for all hazardous waste operations. The SSP should address all on-site operations and hazardous as well as on-site emergency procedures. ICS Form 208, entitled Site Safety Plan, can be used in producing an SSP and the SSP can also include ICS Form 206, Medical Plan.

The SSP is typically prepared by the Safety Officer and approved by the Incident Commander or the Unified Command. All personnel must be familiar with the contents of the SSP and the SSP must be updated as conditions, operations and hazards associated with the response change.

## 6.0 SPILL IMPACT CONSIDERATIONS

### 6.1 CRITICAL AREAS TO PROTECT

The critical areas to protect are classified as high, moderate, and low sensitivity to oil. Because shoreline sensitivity and types change over time, responders should perform on-site confirmations of sensitivity levels at the time of a spill. The Federal, State, and Local authorities will further clarify these categories at the time of the response. The categories are defined as follows:

#### HIGH SENSITIVITY

- Areas that are high in productivity, abundant in many species, extremely sensitive, difficult to rehabilitate, or inhabited by threatened/endangered species.
- Areas that consist of forested areas, brush/grassy areas, wooded lake areas, freshwater marshes, wildlife sanctuaries/refuges, and vegetated river/ stream banks.

#### MODERATE SENSITIVITY

- Areas of moderate productivity, somewhat resistant to the effects of oiling.
- Areas that consist of degraded marsh habitat, clay/silt banks with vegetated margins, and gravel/cobble beaches.

#### LOW SENSITIVITY

- Areas of low productivity, man-made structures, and/or high energy.
- Areas that consist of gravel, sand, or clay material, barren/ rocky riverbanks and lake edges, man-made structures, and concrete/ compacted earthen drainage ditches.

### 6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES

Environmental/socio-economic sensitivities are of extreme importance when planning a response effort. The health and safety of the public and the environment, as well as the protection of the various socio-economic sensitivities, must be promptly addressed in order to mitigate the extent of damage and minimize the cost of the clean-up effort.

All environmental/socio-economic sensitivities are worthy of protection, but must be prioritized during a response effort. When making decisions on which areas to designate as collection areas and which to protect, the following sources may be consulted:

- U.S. Fish and Wildlife Service and related state agencies.
- Applicable Area Contingency Plans.
- Other industry and private experts.

## 6.2 ENVIRONMENTAL/SOCIO-ECONOMIC SENSITIVITIES(Cont'd)

The environmental and socio-economic sensitivities in the vicinity of the Facility have been broken down into specific categories and identified in this Section. To further clarify the location of the sensitive areas of concern, Environmental Sensitivity Maps (Figure 6.2) are provided in this Section.

## 6.3 WILDLIFE PROTECTION AND REHABILITATION

The Company will work with Federal, State, and Local agency personnel to provide labor and transportation to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill, as necessary. Oversight of the Company's wildlife preservation activities and coordination with Federal, State, and Local agencies during an oil spill is the responsibility of the Incident Commander.

Special consideration should be given to the protection and rehabilitation of endangered species and other wildlife and their habitat in the event of an oil spill and subsequent response. Jurisdictional authorities should be notified and worked with closely on all response/clean-up actions related to wildlife protection and rehabilitation. Laws with significant penalties are in place to ensure appropriate protection of these species.

### 6.3.1 Endangered/Threatened Species

The U.S. Fish and Wildlife Service (USFWS) and related State agencies classify the status of various wildlife species in the potentially effected states. A summary of critical birds, reptiles, mammals, and plant species status as related to the Facility's operating areas (area of highest oil spill potential) is presented in Figure 6.1.

### 6.3.2 Wildlife Rescue

The Company will work with Federal, State, and Local agency personnel to provide labor and transportation to retrieve, clean, and rehabilitate wildlife affected by an oil spill, as the situation demands.

The following are items that should be considered for wildlife rescue and rehabilitation during a spill response:

- Bird relocation can be accomplished using a variety of deterrents, encouraging birds to avoid areas of spilled oil. Bird relocation can be accomplished by utilizing deterrent methods including:
  - Use of visual stimuli, such as inflatable bodies, owls, stationary figures, or helium balloons, etc.
  - Use of auditory stimuli, such as propane cannons, recorded sounds, or shell crackers.
  - Use of herding with aircraft, boats, vehicles, or people (as appropriate).
  - Use of capture and relocation.

## 6.3 WILDLIFE PROTECTION AND REHABILITATION (Cont'd)

### 6.3.3 Search and Rescue - Points to Consider

- The Company's involvement should be limited to offering assistance as needed or requested by the agencies.
- Prior to initiating any organized search and rescue plan, authorization must be obtained from the appropriate Federal/State agency.
- Initial search and rescue efforts, if needed, should be left up to the appropriate agencies. They have the personnel, equipment, and training to immediately begin capturing contaminated wildlife.
- With or without authorization, it must be anticipated that volunteer citizens will aid distressed/contaminated wildlife of their own. It is important to communicate that it may be illegal to handle wildlife without express authority from appropriate agencies. Provisions should be made to support an appropriate rehabilitator; however, no support should be given to any unauthorized volunteer rescue efforts.
- The regulatory agencies and response personnel should be provided the name and location of a qualified rehabilitator in the event contaminated wildlife is captured.
- Resources and contacts that can assist with wildlife rescue and rehabilitation are provided in Section 2.0. This list includes:
  - Outside rehabilitation organizations.
  - Local regulatory agencies.
  - Other resources.

## 6.4 STAGING AREAS

When establishing personnel and equipment staging areas for a response to a Facility discharge, the following criteria should be evaluated:

- Access to waterborne equipment launching facilities and/or land equipment.
- Access to open space for staging/deployment of heavy equipment and personnel.
- Access to public services utilities (electricity, potable water, public phone, restroom and washroom facilities, etc.)
- Access to the environmental and socio-economically sensitive areas that are projected for impact.

## 6.5 VULNERABILITY ANALYSIS

### *Water Intakes*

An oil discharge from the Facility could potentially shut down water intakes. Water intakes located within the planning distance are shown in the following table:

Water Intake	Location
Eastman Chemical Co.	201 Bay Street South, Texas City 77590
NRG Texas – Robinson Plant	5501 Highway 146, Bacliff, TX 77518
Texas Copper Corporation	Unable to confirm

### *Schools*

No schools are located along the potential spill pathway within the planning distance. Traffic in the vicinity could be impacted by response activities. Schools located near the Site include:

School	Address
Heights Elementary	300 N. Logan Street, Texas City, TX
Texas City High School	1800 Ninth Avenue North, Texas City, TX
Fry Intermediate	1400 Fifth Avenue North, Texas City, TX
Kohfeldt Elementary	701 14 <sup>th</sup> Street North, Texas City, TX

Any evacuation efforts for these school(s) will be coordinated by the local emergency assistance agencies (police department, fire department, etc.).

### **Medical Facilities**

No medical facilities should be impacted by a release from the Facility within the planning distance. The nearest medical facility to the Site is Mainland Medical Center located at 6801 Emmett F. Lowry Expy, Texas City, TX.

### **Residential Areas**

Residential areas are scattered throughout the areas that may be potentially impacted by a discharge originating from the Facility. The most likely impact will be a disruption of traffic by response activities.

Population	Census Block – Texas City
50	2301 3 <sup>rd</sup> Avenue South
4	2301 4 <sup>th</sup> Avenue South
26	2300 1 <sup>st</sup> Avenue South

Any evacuation efforts for these areas will be coordinated by the local emergency assistance agencies (police department, fire department, etc.).

## 6.5 VULNERABILITY ANALYSIS (Cont'd)

### ***Businesses***

The immediate areas surrounding the Facility are a combination of residential, commercial, or industrial. The listing of businesses is extensive and only the key private sectors are identified. A release could impact property and disrupt business activities.

Businesses
Marathon Ashland Petroleum LLC Texas City Refinery
Valero Refining Co. Texas City Refinery
Eastman Chemical
DOW Chemical Corporation
BP Amoco Chemical

Any evacuation efforts will be coordinated by the local emergency assistance agencies (police department, fire department, etc.).

### ***Fish and Wildlife, Wetlands, and other Sensitive Environments***

The shoreline and general environment within the planning distance includes saltwater marshes. The size and diversity of the wetland environments vary with season and year. The area surrounding the Facility is detailed in the ACP. The maps in Figure 6.2 detail shoreline types and sensitive areas.

Flora and fauna are always present and are sensitive to the effects of a pollution incident. All environmental areas deserve protection from pollution, but they must be prioritized during a response so as to protect the most sensitive and susceptible areas to pollution.

During a response situation, the USFWS and applicable State agencies should be contacted for information regarding wetlands and other sensitive environments. Upon contact, the agencies will be able to:

- Identify and establish priorities for fish and wildlife, wetlands, and other sensitive environments requiring protection from any direct or indirect effects from a discharge.
- Identify potential environmental effects on fish and wildlife, wetlands, and other sensitive environments resulting from removal actions or countermeasures.



## 6.5 VULNERABILITY ANALYSIS (Cont'd)

### *Lakes and Streams*

Waterbodies that could be impacted by a release from the Facility within the planning distance:

Water Bodies	
Galveston Bay	Moses Lake
Swan Lake	Campbell Bayou
Greens Lake	Butterowe Bayou
Oak Bayou	Como Lake
Eckert Bayou	Mentzel Bayou
Oxen Bayou	Gangs Bayou
Trinity Bay	Offatts Bayou

### *Endangered Flora and Fauna*

The endangered flora and fauna that may be potentially impacted by a discharge originating at the Facility are detailed in Figure 6.1. USFWS and applicable State agencies will be contacted for information regarding endangered species.

### *Recreational Areas*

The following parks could be impacted by a release from the Facility with the planning distance.

Parks	Location
Seawolf Park	Pelican Island via Seawolf Parkway, Galveston, TX
Apffel Park	East Beach

### *Transportation Routes (air, land, and water)*

Direct street traffic could be impacted by emergency personnel and response activities.

Nearby docks and water commerce would be impacted by a release based on tides and winds. Air traffic at Ellington Field should not be impacted by a release from the Facility.

## 6.5 VULNERABILITY ANALYSIS (Cont'd)

### *Transportation Routes (air, land, and water) (Cont'd)*

The local emergency assistance agencies (police department, fire department, etc.) and the U.S. Coast Guard (as applicable) would be contacted for traffic control in the area of the discharge.

### **Utilities**

There is one power station that could be impacted by a release from the Facility (see Water Intakes).

Any notification or evacuation efforts necessary will be coordinated by the local emergency assistance agencies (police department, fire department, etc.), State Police, U.S. Coast Guard, and other agencies as the situation demands.

### *Other Areas of Economic Importance*

Oyster reef and shrimp harvesting areas could be impacted by a release from the Facility.

## 6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT

General descriptions of various specific response techniques that may be applied during a response effort are discussed below. The Company's responders are free to use all or any combination of these methods as incident conditions require, provided they meet the agency approval, appropriate safety standards and other requirements relative to the situation encountered. Data was obtained from reports, manuals and pamphlets prepared by the American Petroleum Institute, Environmental Protection Agency and the United States Coast Guard. The most effective cleanup of a product spill will result from an integrated combination of clean-up methods. Each operation should complement and assist related operations and not merely transfer spillage problems to areas where they could be more difficult to handle.

The spill should be assessed as soon as possible to determine the source, extent and location of travel. Terrain and other physical conditions downgradient of the spill site will determine the methods of control at a point in advance of the moving product. Often, the bulk of a spill can be contained at a single location or a few key locations in the immediate vicinity of the source point. When possible, the execution of this type of initial containment strategy helps confine a spill to a relatively limited area.

### 6.6.1 Spill on Land (Soil Surfaces)

#### **Confinement Methods**

Product can be trapped in ditches and gullies by earth dams. Where excavating machinery is available, dams can be bulldozed to contain lakes of product. Dams, small and large, should be effectively employed to protect priority areas such as inlets to drains, sewers, ducts and watercourses. These can be constructed of earth, sandbags, absorbents, or any other effective method. If time does not permit a large dam, many small ones can be made, each one holding a portion of the spill.

## 6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

### 6.6.1 Spill on Land (Soil Surfaces) (Cont'd)

#### Confinement Methods (Cont'd)

advances. The terrain will dictate the placement of the dams. If the spill is minor, natural dams or earth absorption will usually stop the product before it advances a significant distance. Cleanup is the main concern in such situations.

In situations where vapors from a spill present a clear and present danger to property or life (possible ignition because of passing automobiles, nearby houses, or work vehicles approaching the area), spraying the surface of the spill with vapor suppressants will greatly reduce the release of additional vapors from the product. This method is especially adapted to gasoline spills on soil surfaces.

#### • Removal Methods

The recovery and removal of free product from soil surfaces is a difficult job. The best approaches at present seem to be:

Removal with suction equipment to tank truck if concentrated in volumes large enough to be picked up. Channels can be formed to drain pools of product into storage pits. The suction equipment can then be used.

Small pockets may have to be dipped up by hand.

### 6.6.2 Spill in Nearshore Urban Areas

Oil spills in urban areas can greatly impact recreational use, human health, wildlife habitat(s), and potential beach or park closures. Manmade structures along waterways require unique protection strategies. Manmade structures could include vertical shore protection structures such as seawalls, piers, and bulkheads, as well as riprap revetments and groins, breakwaters, and jetties. Vertical structures can be constructed of concrete, wood, and corrugated metal. They usually extend below the water surface, although seawalls can have beaches or riprap in front of them. These structures are very common along developed shores, particularly in harbors, marinas, and residential areas.

The range in degree of exposure to waves and currents varies widely, from very low in dead-end canals, to very high on offshore breakwaters. Boat wakes can generate wave energy in otherwise sheltered areas.

Maintaining shipping or other kinds of vessel traffic through navigation channels or waterways during a spill response is a difficult consideration because there is usually economic and political pressure to re-establish normal operations as soon as possible. For these reasons, recovery efforts must be coordinated through the Unified Command to ensure the cooperation of all parties involved.

## 6.6 CONTAINMENT AND RECOVERY OF SPILLED PRODUCT (Cont'd)

### 6.6.2 Spill in Nearshore Urban Areas (Cont'd)

Note: All Facility response personnel have been informed that detergents or other surfactants are prohibited for use on water and that dispersants can only be used with the approval of the Regional Response Team and TX GLO.

#### Confinement Methods

In harbor areas, oil can often be contained by a vessel of opportunity or a dedicated Oil Spill Response Vessel (OSRV) using containment booms and skimmers. Optimum conditions for recovery operations would be with currents of 3 knots or less. Boom could also be deployed from shore to contain and concentrate product in the vicinity of the release point until the product can be removed.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP

### 6.7.1 Spills in Intertidal Environment

#### Exposed, Solid Man-made Structures

- **Description**
  - These are solid, man-made structures such as seawalls, groins, revetments, piers, and port facilities.
  - Many structures are constructed of concrete, wood, or metal.
  - They are built to protect the shore from erosion by waves, boat wakes, and currents, and thus are exposed to rapid natural removal processes.
  - Often there is no exposed substrate at low tide, but multiple habitats may be present.
  - Attached animals and plants are sparse to moderate.
- **Predicted Oil Behavior**
  - Oil is held offshore by waves reflecting off the steep, hard surfaces in exposed settings.
  - Oil readily adheres to the dry, rough surfaces, but it does not adhere to wet substrates.
  - The most resistant oil would remain as a patchy band at or above the high-tide line.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.1 Spills in Intertidal Environment (Cont'd)

#### Exposed, Solid Man-made Structures (Cont'd)

- **Response Considerations**

- Must be cleaned to a non-sheen state
- High-pressure water spraying may be conducted to remove risks of contamination of people or vessels or to improve aesthetic

#### Sand Beaches

- **Description**

- These beaches are flat to moderately sloping and relatively hard-packed.
- There can be heavy accumulations of wrack.
- They are used by birds and turtles.
- Upper beach fauna include ghost crabs and amphipods; lower beach fauna can be moderate, but highly variable.

- **Predicted Oil Behavior**

- Light oil accumulations will be deposited as oily swashes or bands along the upper intertidal zone.
- Heavy oil accumulations will cover the entire beach surface; oil will be lifted off the lower beach with the rising tide.
- Maximum penetration of oil into fine- to medium-grained sand is about 10-15 cm, up to 25 cm in coarse-grained sand. Maximum penetration of oil into fine to medium-grained sand beaches is about 10-15 cm, and about 25 cm into coarse-grained sand beaches.
- Burial of oiled layers by clean sand can be rapid (within one day), and burial to depths as much as one meter is possible if the oil comes ashore at the beginning of a depositional period.
- Organisms living in the beach sediment may be killed by smothering or lethal oil concentrations in the interstitial water.
- Biological impacts include temporary declines in infauna, which can affect important shorebird foraging areas.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.1 Spills in Intertidal Environment (Cont'd)

#### Sand Beaches (Cont'd)

- **Response Considerations**

- These beaches are among the easiest shoreline types to clean.
- Cleanup should concentrate on removing oil and oily debris from the upper swash zone once most of the oil has come ashore.
- Manual cleanup, rather than road graders and front-end loaders, is advised to minimize volume of sand removed from the shore and requiring disposal.
- All efforts should focus on preventing vehicular and foot traffic from mixing oil deeper into the sediments.
- Mechanical reworking of lightly oiled sediments from the high-tide line to the upper intertidal zone can be effective along exposed beaches.

#### Mixed Sand and Gravel Beaches

- **Description**

- Because of the mixed sediment sizes on these moderately sloping beaches, there may be zones of pure sand, pebbles, or cobbles.
- There can be large-scale changes in the sediment distribution patterns depending upon season, because of the transport of the sand fraction offshore during storms.
- Desiccation and sediment mobility on exposed beaches cause low densities of attached animals and plants.
- The presence of attached algae, mussels, and barnacles indicates beaches that are relatively sheltered, with the more stable substrate supporting a richer biota.

- **Predicted Oil Behavior**

- During small spills, oil will be deposited along and above the high-tide swash.
- Large spills will spread across the entire intertidal area.
- Oil penetration into the beach sediments may be up to 50 cm; however, the sand fraction can be quite mobile, and oil behavior is much like on a sand beach if the sand fraction exceeds about 40 percent.
- Burial of oil may be deep at and above the high-tide line, where oil tends to persist, particularly where beaches are only intermittently exposed to waves.
- In sheltered pockets on the beach, pavements of asphalted sediments can form if oil accumulations are not removed, because most of the oil remains on the surface.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.1 Spills in Intertidal Environment (Cont'd)

#### Mixed Sand and Gravel Beaches (Cont'd)

- **Response Considerations**

- Remove heavy accumulations of pooled oil from the upper beachface.
- All oiled debris should be removed; sediment removal should be limited as much as possible.
- Low-pressure flushing can be used to float oil away from the sediments for recovery by skimmers or sorbents. High-pressure spraying should be avoided because of potential for transporting contaminated finer sediments (sand) to the lower intertidal or subtidal zones.
- Mechanical reworking of oiled sediments from the high-tide zone to the upper intertidal zone can be effective in areas regularly exposed to wave activity. However, oiled sediments should not be relocated below the mid-tide zone.
- In-place tilling may be used to reach deeply buried oil layers in the mid-tide zone on exposed beaches.

#### Riprap

- **Description**

- Riprap structures are composed of cobble- to boulder-sized blocks of granite, limestone, concrete, or other materials.
- Riprap structures are used as revetment and groins for shoreline protection, and as breakwaters and jetties around inlets and marinas.
- Attached biota are generally sparse on exposed riprap.
- They are common in highly developed waterfront areas.

- **Predicted Oil Behavior**

- Deep penetration of oil between the blocks is likely.
- Oil adheres readily to the rough surfaces of the blocks.
- Uncleaned oil can cause chronic leaching until the oil hardens.

- **Response Considerations**

- When the oil is fresh and liquid, high pressure spraying and/or water flooding may be effective if all liberated oil is recovered.
- Heavy and weathered oils are more difficult to remove, requiring scraping and high-pressure, hot-water flushing.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.1 Spills in Intertidal Environment (Cont'd)

#### Exposed Tidal Flats

- **Description**
  - Exposed tidal flats are broad intertidal areas composed primarily of sand and minor amounts of gravel.
  - The presence of sand indicates that tidal currents and waves are strong enough to mobilize the sediments.
  - They are usually associated with another shoreline type on the landward side of the flat, though they can occur as separate shoals; they are commonly associated with tidal inlets.
  - Biological use can be very high, with large numbers of infauna, heavy use by birds for roosting and foraging, and use by foraging fish.
- **Predicted Oil Behavior**
  - Oil does not usually adhere to the surface of exposed tidal flats, but rather moves across the flat and accumulates at the high-tide line.
  - Deposition of oil on the flat may occur on a falling tide if concentrations are heavy.
  - Oil does not penetrate water-saturated sediments, but may penetrate coarse-grained sand and coat gravel.
  - Biological damage may be severe, primarily to infauna, thereby reducing food sources for birds and other predators.
- **Response Considerations**
  - Currents and waves can be very effective in natural removal of the oil.
  - The use of heavy machinery should be restricted to prevent oil mixing into the sediments.

#### Sheltered, Solid Man-made Structures

- **Description**
  - These are structures such as seawalls, groins, revetments, piers, and port facilities, constructed of concrete, wood, or metal.
  - Most structures are designed to protect a single lot, thus their composition, design, and condition are highly variable.
  - Often there is no exposed beach at low tide, but multiple habitats may be present.



## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.1 Spills in Intertidal Environment (Cont'd)

#### Sheltered, Solid Man-made Structures (Cont'd)

- **Description (Cont'd)**
  - There can be dense attachments of animal and plant life.
  - They are common in developed waterfront areas.
- **Predicted Oil Behavior**
  - Oil will adhere readily to the rough surface, particularly along the high-tide line, forming a distinct oil band.
  - The lower intertidal zone usually stays wet (particularly if algae-covered), preventing oil from adhering to the surface.
- **Response Considerations**
  - Seawalls are usually cleaned for aesthetic reasons or to prevent leaching of oil.
  - Low- to high-pressure spraying at ambient water temperatures is most effective when the oil is fresh

#### Sheltered Tidal Flats

- **Description**
  - Sheltered tidal flats are composed primarily of mud with minor amounts of sand and shell.
  - They are usually present in calm-water habitats, sheltered from major wave activity, and backed by marshes.
  - The sediments are very soft and cannot support even light foot traffic in many areas.
  - There can be large concentrations of bivalves, worms, and other invertebrates in the sediments.
  - They are heavily used by birds for feeding.
- **Predicted Oil Behavior**
  - Oil does not usually adhere to the surface of sheltered tidal flats, but rather moves across the flat and accumulates at the high-tide line.
  - Deposition of oil on the flat may occur on a falling tide if concentrations are heavy.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.1 Spills in Intertidal Environment (Cont'd)

#### Sheltered Tidal Flats (Cont'd)

- **Predicted Oil Behavior (Cont'd)**
  - Oil will not penetrate the water-saturated sediments, but could penetrate burrows and desiccation cracks or other crevices in muddy sediments.
  - In areas of high suspended sediment concentrations, the oil and sediments could mix, resulting in the deposition of contaminated sediments on the flats.
  - Biological impacts may be severe.
- **Response Considerations**
  - These are high-priority areas for protection since cleanup options are limited.
  - Cleanup of the flat surface is very difficult because of the soft substrate; many methods may be restricted.
  - Low-pressure flushing and deployment of sorbents from shallow-draft boats may be attempted.

#### Salt to Brackish Marshes

- **Description**
  - Intertidal wetlands contain emergent, herbaceous vegetation, including both tidal and muted tidal marshes. Depending on location and interannual variations in rainfall and runoff, associated vegetation may include species tolerant or adapted to salt, brackish, or even tidal freshwater conditions.
  - The marsh width may vary from a narrow fringe to extensive areas.
  - Sediments are composed of organic muds except where sand is abundant on the margins of exposed areas.
  - Exposed areas are located along bays with wide fetches and along heavily trafficked waterways.
  - Sheltered areas are not exposed to significant wave or boat wake activity.
  - Abundant resident flora and fauna with numerous species and high use by birds, fish, and shellfish.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.1 Spills in Intertidal Environment (Cont'd)

#### Salt to Brackish Marshes (Cont'd)

- **Predicted Oil Behavior**
  - Oil adheres readily to intertidal vegetation.
  - The band of coating will vary widely, depending upon the water level at the time of oiling.
  - Large slicks will persist through multiple tidal cycles and will coat the entire stem from the high-tide line to the base.
  - Heavy oil coating will be restricted to the outer fringe of thick vegetation, although lighter oils can penetrate deeper, to the limit of tidal influence.
  - Medium to heavy oils do not readily adhere to or penetrate the fine sediments, but can pool on the surface or in animal burrows and root cavities.
  - Light oils can penetrate the top few centimeters of sediment; under some circumstances oil can penetrate burrows and cracks up to one meter.
- **Response Considerations**
  - Under light oiling, the best practice is to let the area recover naturally.
  - Natural removal processes and rates should be evaluated before conducting cleanup.
  - Heavily pooled oil can be removed by vacuum, sorbents, or low-pressure flushing. During flushing, care must be taken to prevent transporting oil to sensitive areas down slope or along shore.
  - Cleanup activities should be carefully supervised to avoid damaging vegetation.
  - Any cleanup activity must not mix the oil deeper into the sediments. Trampling of the plants and disturbance of soft sediments must be minimized.
  - Aggressive cleanup methods should only be considered when other resources (migratory birds, endangered species) are at greater risk from oiled vegetation left in place.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.2 Spills in Subtidal Environment

#### Seagrasses

##### Description

- Seagrasses are highly productive habitats that occur on intertidal flats and in shallow coastal waters worldwide from arctic to tropical climates.
- Water temperature, light penetration, sediment type, salinity, and wave or current energy control seagrass distribution.
- Seagrasses provide a food source for green turtles, manatees, and waterfowl, who graze on seagrasses.
- Seagrasses are used by fish and shellfish as nursery areas.

##### Predicted Oil Behavior

- Oil will usually pass over subtidal seagrass beds, with no direct contamination.
- Oil that is heavier than seawater can become trapped in the beds, coating the leaves and sediments.
- Oil readily adheres to the vegetation, and the oiled blades are quickly defoliated when intertidal beds are oiled.
- Floating oil stranded on adjacent beaches can pick up sediment and then get eroded and deposited in adjacent beds.

##### Response Considerations

- Be careful when deploying and anchoring booms to prevent physical damage to seagrass beds.
- Be careful to prevent sediment suspension and mixing with the oil, and disturbance of roots and vegetation by foot traffic and boat activity.
- Do not cut seagrass unless species like sea turtles, manatees, or waterfowl are at significant risk of contacting or ingesting oil.
- Dispersant use directly over subtidal seagrass beds may impact the highly sensitive communities. However, use in offshore areas can reduce impacts to highly sensitive intertidal environments.
- In situ burning can be considered outside the immediate vicinity of seagrass beds to protect sensitive intertidal environments. Burn residues can sink; the potential effects of residues will depend on the composition and amount of the oil to be burned.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.2 Spills in Subtidal Environment (Cont'd)

#### Soft Bottom

##### Description

- Soft-bottom, subtidal habitats consist of various percentages of sand, silt, and clay, occurring in sheltered bays and estuaries, and deeper offshore areas.
- The presence of fine-grained sediments indicates that the substrate is not exposed to significant wave or tidal energy.
- Biological resources associated with this habitat include shrimp, crabs, clams, fish, and the pelagic and benthic communities that support them (e.g., plankton, worms, amphipods, isopods).

##### Predicted Oil Behavior

- This habitat is not often exposed to spilled oil. The greatest risk of exposure is from the sinking oil or the sorption of dispersed oil onto suspended sediments that are then deposited on the bottom.
- Significant natural dispersion of oil and sediments into the water column occurs only during large storms and nearshore oil spills.
- Shoreline cleanup can suspend oil and fine-grained sediments, causing deposition of oily sediments in nearshore habitats.
- Concerns about seafood contamination from dispersed oil or oiled sediments can become a significant issue. Real, potential, or fear of contamination can close seafood harvesting activities.

##### Response Considerations

- Removal might be needed where significant amounts of oil have sunk and formed mats or concentrations of tarballs on the sediment surface.
- Special efforts will be needed to control suspended sediments and resuspended oil during recovery operations.
- Dispersants can be used over soft subtidal habitats in order to protect more sensitive intertidal environments. Effects on biota are less for applications in deep water or high dilution rates.
- In situ burning can be used to protect sensitive intertidal environments. When burned, some oils can produce a sinkable residue; the potential effects of these residues will depend on the composition and amount of oil to be burned.

## 6.7 SHORELINE AND HABITAT RESPONSE ZONE CLEANUP (Cont'd)

### 6.7.3 Spills in Bays and Estuaries

#### Bays and estuaries

##### Description

- Near coastal waters partially surrounded by land and more sheltered than offshore habitats.
- Limited circulation and flushing, with depths frequently <30 feet.
- Suspended sediment concentrations can be high.
- Highly sensitive to oil spills, particularly where flushing rates are low and the probability of contact increases.
- Many species spawn in these habitats during spring, and their sensitive early life stages can persist in shallow waters.
- Large numbers of migratory or wintering waterfowl, wading, and diving birds are often found here. Bays and estuaries are also home to marine mammals and sea turtles.
- Estuaries and bays are used by commercially or recreationally important finfish, shellfish, and other organisms that migrate seasonally.

##### Predicted Oil Behavior

- Oil can impact bottom habitats (benthic organisms) when water is shallow.
- Stranded oil on nearby shorelines can become a prolonged source for oil re-released to the water column.
- Tides and fresh water can substantially influence spilled oil movement.

##### Response Considerations

- Reducing impacts to organisms that live on or in the sea surface is often a high priority.
- Reducing the extent of impacts to sensitive nearshore subtidal or intertidal habitats should be considered.
- Spill response is not conducted from a shoreline, but from water-based vessels or aircraft.
- Use of certain response options is seasonally limited to protect sensitive life histories.
- Adverse effects to birds would be greatest during migration and overwintering when the birds form large flocks.

## **6.8 ALTERNATIVE RESPONSE STRATEGIES**

There are no pre-approved response options for inland spills within the United States. Any plans to use dispersants or in situ burn by the Company will be submitted to the Federal On-Scene Coordinator for Regional Response Team and TX GLO approval prior to such action being taken. Additionally, all facility personnel who might be involved in an oil spill response have been informed that detergents or other surfactants are prohibited from being used on an oil spill in water.

FIGURE 6.1

## ENDANGERED/THREATENED SPECIES LISTING

The following is a complete listing of endangered/threatened species with known or possible occurrence for the State of Texas. Shaded species have been identified in Galveston County.

ANIMALS	
Common Name	Scientific Name
Greater Long-nosed Bat	<i>Leptonycteris nivalis</i>
Southern Yellow Bat	<i>Lasiurus ega</i>
Spotted Bat	<i>Euderma maculatum</i>
Rafinesque's Big-eared Bat	<i>Corynorhinus rafinesquii</i>
Texas Kangaroo Rat	<i>Dipodomys elator</i>
Coues' Rice Rat	<i>Oryzomys couesi</i>
Palo Duro Mouse	<i>Peromyscus truei comanche</i>
Gervais' Beaked Whale	<i>Mesoplodon europaeus</i>
Goose-beaked Whale	<i>Ziphius cavirostris</i>
Pygmy Sperm Whale	<i>Kogia breviceps</i>
Dwarf Sperm Whale	<i>Kogia simus</i>
Sperm Whale	<i>Physeter macrocephalus</i>
Atlantic Spotted Dolphin	<i>Stenella frontalis</i>
Rough-toothed Dolphin	<i>Steno bredanensis</i>
Killer Whale	<i>Orcinus orca</i>
False Killer Whale	<i>Pseudorca crassidens</i>
Short-finned Pilot Whale	<i>Globicephala macrorhynchus</i>
Pygmy Killer Whale	<i>Feresa attenuata</i>
Finback Whale	<i>Balaenoptera physalus</i>
Blue Whale	<i>Balaenoptera musculus</i>
Black Right Whale	<i>Eubalaena glacialis</i>
West Indian Manatee	<i>Trichechus manatus</i>
Red Wolf	<i>Canis rufus</i>
Black Bear	<i>Ursus americanus</i>
Louisiana Black Bear	<i>Ursus americanus luteolus</i>
Grizzly Bear	<i>Ursus arctos</i>
White-nosed Coati	<i>Nasua narica</i>
Black-footed Ferret	<i>Mustela nigripes</i>
Ocelot	<i>Felis pardalis</i>
Margay	<i>Felis wiedii</i>
Jaguarundi	<i>Felis yaguarondi</i>
Jaguar	<i>Panthera onca</i>
Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>
Paddlefish	<i>Polyodon spathula</i>
Mexican Stoneroller	<i>Campostoma ornatum</i>
Devils River Minnow	<i>Dionda diaboli</i>
Rio Grande Chub	<i>Gila pandora</i>
Rio Grande Silvery Minnow	<i>Hybognathus amarus</i>
Chihuahua Shiner	<i>Notropis chihuahua</i>
Arkansas River Shiner	<i>Notropis girardi</i>
Bluehead Shiner	<i>Notropis hubbsi</i>
Bluntnose Shiner	<i>Notropis simus</i>
Proserpine Shiner	<i>Cyprinella proserpina</i>



**FIGURE 6.1**  
**ENDANGERED/THREATENED SPECIES LISTING (Cont'd)**

<b>ANIMALS (Cont'd)</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Blue Sucker	<i>Cycleptus elongatus</i>
Creek Chubsucker	<i>Erimyzon oblongus</i>
Widemouth Blindcat	<i>Satan eurystomus</i>
Toothless Blindcat	<i>Trogloglanis patterni</i>
Leon Springs Pupfish	<i>Cyprinodon bovinus</i>
Comanche Springs Pupfish	<i>Cyprinodon elegans</i>
Conchos Pupfish	<i>Cyprinodon eximius</i>
Pecos Pupfish	<i>Cyprinodon pecosensis</i>
Big Bend Gambusia	<i>Gambusia gaigei</i>
San Marcos Gambusia	<i>Gambusia georgei</i>
Clear Creek Gambusia	<i>Gambusia heterochir</i>
Pecos Gambusia	<i>Gambusia nobilis</i>
Blotched Gambusia	<i>Gambusia senilis</i>
Fountain Darter	<i>Etheostoma fonticola</i>
Rio Grande Darter	<i>Etheostoma grahami</i>
Blackside Darter	<i>Percina maculata</i>
Opossum Pipefish	<i>Microphis brachyurus</i>
River Goby	<i>Awaous tajasica</i>
Blackfin Goby	<i>Gobionellus atripinnis</i>
Loggerhead Sea Turtle	<i>Caretta caretta</i>
Green Sea Turtle	<i>Chelonia mydas</i>
Atlantic Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>
Kemp's Ridley Sea Turtle	<i>Lepidochelys kempii</i>
Alligator Snapping Turtle	<i>Macrochelys temminckii</i>
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>
Chihuahuan Mud Turtle	<i>Kinosternon hirtipes</i>
Texas Tortoise	<i>Gopherus berlandieri</i>
Reticulated Gecko	<i>Coleonyx reticulatus</i>
Reticulate Collared Lizard	<i>Crotaphytus reticulatus</i>
Texas Horned Lizard	<i>Phrynosoma cornutum</i>
Mountain Short-horned Lizard	<i>Phrynosoma hernandesi</i>
Scarlet Snake	<i>Cemophora coccinea</i>
Black-Striped Snake	<i>Coniophanes imperialis</i>
Indigo Snake	<i>Drymarchon corais</i>
Speckled Racer	<i>Drymobius margaritiferus</i>
Northern Cat-Eyed Snake	<i>Leptodeira septentrionalis</i>
Brazos Water Snake	<i>Nerodia harteri</i>
Concho Water Snake	<i>Nerodia paucimaculata</i>
Smooth Green Snake	<i>Liochlorophis vernalis</i>
Louisiana Pine Snake	<i>Pituophis melanoleucus ruthveni</i>
Big Bend Blackhead Snake	<i>Tantilla rubra</i>
Texas Lyre Snake	<i>Trimorphodon biscutatus</i>
Timber (Canebrake) Rattlesnake	<i>Crotalus horridus</i>
Cascade Caverns Salamander	<i>Eurycea latitans</i>
San Marcos Salamander	<i>Eurycea nana</i>
Comal Blind Salamander	<i>Eurycea tridentifera</i>

FIGURE 6.1

## ENDANGERED/THREATENED SPECIES LISTING (Cont'd)

ANIMALS (Cont'd)	
Common Name	Scientific Name
Barton Springs Salamander	<i>Eurycea sosorum</i>
Texas Blind Salamander	<i>Eurycea rathbuni</i>
Blanco Blind Salamander	<i>Eurycea robusta</i>
Black-Spotted Newt	<i>Notophthalmus meridionalis</i>
South Texas Siren (large form)	<i>Siren</i>
Houston Toad	<i>Bufo houstonensis</i>
Mexican Treefrog	<i>Smilisca baudinii</i>
White-Lipped Frog	<i>Leptodactylus labialis</i>
Sheep Frog	<i>Hypopachus variolosus</i>
Mexican Burrowing Toad	<i>Rhinophrynus dorsalis</i>
"Eastern" Brown Pelican	<i>Pelecanus occidentalis</i>
Reddish Egret	<i>Egretta rufescens</i>
White-faced Ibis	<i>Plegadis chihi</i>
Wood Stork	<i>Mycteria americana</i>
Whooping Crane	<i>Grus americana</i>
Swallow-Tailed Kite	<i>Elanoides forficatus</i>
Common Black-hawk	<i>Buteogallus anthracinus</i>
Gray Hawk	<i>Asturina nitida</i>
White-tailed Hawk	<i>Buteo albicaudatus</i>
Zone-tailed Hawk	<i>Buteo albonotatus</i>
Northern Aplomado Falcon	<i>Falco femoralis septentrionalis</i>
Peregrine Falcon	<i>Falco peregrinus</i>
American Peregrine Falcon	<i>Falco peregrinus anatum</i>
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>
Cactus Ferruginous Pygmy-Owl	<i>Glaucidium brasilianum cactorum</i>
"Mexican" Spotted Owl	<i>Strix occidentalis lucida</i>
"Attwater's" Greater Prairie Chicken	<i>Tympanuchus cupido attwateri</i>
Piping Plover	<i>Charadrius melodus</i>
Mountain Plover	<i>Charadrius montanus</i>
Eskimo Curlew	<i>Numenius borealis</i>
"Interior" Least Tern	<i>Sterna antillarum athalassos</i>
Sooty Tern	<i>Sterna fuscata</i>
Red-cockaded Woodpecker	<i>Picoides borealis</i>
Ivory-billed Woodpecker	<i>Campephilus principalis</i>
"Northern" Beardless-tyrannulet	<i>Camptostoma imberbe</i>
"Southwestern" Willow Flycatcher	<i>Empidonax traillii extimus</i>
Rose-throated Becard	<i>Pachyramphus aglaiae</i>
Black-capped Vireo	<i>Vireo atricapillus</i>
Bachman's Warbler	<i>Vermivora bachmanii</i>
Tropical Parula	<i>Parula pitiayumi</i>
Golden-checked Warbler	<i>Dendroica chrysoparia</i>
Bachman's Sparrow	<i>Aimophila aestivalis</i>
"Texas" Botteri's Sparrow	<i>Aimophila botterii texana</i>
"Arizona" Botteri's Sparrow	<i>Aimophila botterii arizonae</i>
Peck's Cave Amphipod	<i>Stygobromus pecki</i>

**FIGURE 6.1**  
**ENDANGERED/THREATENED SPECIES LISTING (Cont'd)**

<b>ANIMALS (Cont'd)</b>	
<b>Common Name</b>	<b>Scientific Name</b>
American Burying Beetle	<i>Nicrophorus americanus</i>
Comal Springs Riffle Beetle	<i>Heterelmis comalensis</i>
Tooth Cave Ground Beetle	<i>Rhadine persephone</i>
A Ground Beetle	<i>Rhadine exilis</i>
A Ground Beetle	<i>Rhadine infernalis</i>
Kretschmarr Cave Mold Beetle	<i>Texamaurops reddelli</i>
Coffin Cave Mold Beetle	<i>Batrisodes texanus</i>
Helotes Mold Beetle	<i>Batrisodes venyivi</i>
Comal Springs Dryopid Beetle	<i>Stygoparnus comalensis</i>
Tooth Cave Spider	<i>Neoleptoneta myopica</i>
Government Canyon Cave Spider	<i>Neoleptoneta microps</i>
Bee Creek Cave Harvestman	<i>Texella reddelli</i>
Bone Cave Harvestman	<i>Texella reyesi</i>
Robber Baron Cave Harvestman	<i>Texella cokendolpheri</i>
Tooth Cave Pseudoscorpion	<i>Tartarocreagris texana</i>
Madla's Cave Spider	<i>Cicurina madla</i>
Robber Baron Cave Spider	<i>Cicurina baronia</i>
Veni's Cave Spider	<i>Cicurina venii</i>
Vesper Cave Spider	<i>Cicurina vespera</i>
Ouachita Rock-Pocketbook Mussel	<i>Arkansia wheeleri</i>

<b>PLANTS</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Tobusch Fishhook Cactus	<i>Ancistrocactus tobuschii</i>
Bunched Cory Cactus	<i>Coryphantha ramillosa</i>
Lloyd's Hedgehog Cactus	<i>Echinocereus lloydii</i>
Black Lace Cactus	<i>Echinocereus reichenbachii</i> var. <i>albertii</i>
Davis' Green Pitaya	<i>Echinocereus viridiflorus</i> var. <i>davisii</i>
Chisos Mountains Hedgehog Cactus	<i>Echinocereus chisoensis</i> var. <i>chisoensis</i>
Lloyd's Mariposa Cactus	<i>Neolloydia mariposensis</i>
Nellie Cory Cactus	<i>Coryphantha minima</i>
Sneed Pincushion Cactus	<i>Coryphantha sneedii</i> var. <i>sneedii</i>
Star Cactus	<i>Astrophytum asterias</i>
Hinckley's Oak	<i>Quercus hinckleyi</i>
Johnston's Frankenia	<i>Frankenia johnstonii</i>
Texas Ayenia	<i>Ayenia limitaris</i>
Texas Snowbells	<i>Styrax texanus</i>
Walker's Manioc	<i>Manihot walkerae</i>
South Texas Ambrosia	<i>Ambrosia cheiranthifolia</i>
Puzzle Sunflower, Pecos Sunflower	<i>Helianthus paradoxus</i>
Texas Prairie Dawn	<i>Hymenoxys texana</i>
Ashy Dogweed	<i>Thymophylla tephroleuca</i>
Terlingua Creek Cat's eye	<i>Cryptantha crassipes</i>
Zapata Bladderpod	<i>Lesquerella thamnophila</i>
White Bladderpod	<i>Lesuerella pallida</i>

FIGURE 6.1

## ENDANGERED/THREATENED SPECIES LISTING (Cont'd)

PLANTS (Cont'd)	
Common Name	Scientific Name
Slender Rush-pea	<i>Hoffmannseggia tenella</i>
McKittrick Pennyroyal	<i>Hedeoma apiculatum</i>
Texas Poppy-mallow	<i>Callirhoe scabriuscula</i>
Large-Fruited Sand Verbena	<i>Abronia macrocarpa</i>
Texas Trailing Phlox	<i>Phlox nivalis ssp. texensis</i>
American Chaffseed	<i>Schwalbea americana</i>
Navasota Ladies' Tresses	<i>Spiranthes parksii</i>
Texas Wild-Rice	<i>Zizania texana</i>
Little Aguja Pondweed	<i>Potamogeton clystocarpus</i>

**FIGURE 6.2****ENVIRONMENTAL SENSITIVITY MAPS**

The Environmental Sensitivity Maps have been prepared utilizing TGLO Oil Spill Planning and Response Maps and One Gulf Plan. The maps include a key to the reference symbols located on each map. The maps are kept in the IMT Command Center.

These maps are to be utilized as guidelines only. During a real response effort, Federal, State, and Local agencies should be contacted to provide further assistance in the proper identification and protection of the various environmental and socio-economic sensitive areas.

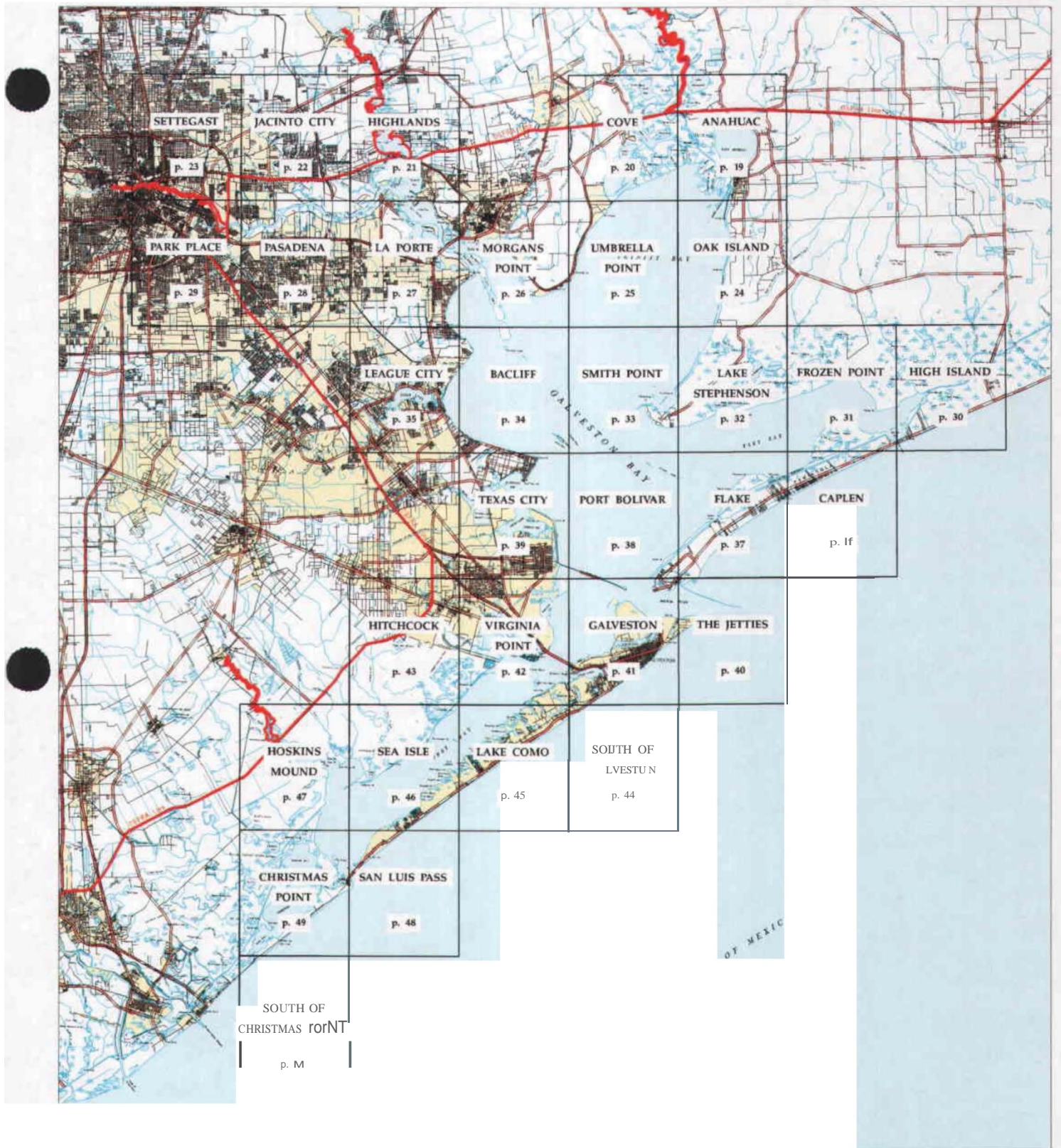
The Area Contingency Plan (ACP) and this Plan place maximum priority upon the protection of the environment that may be endangered and the immediate commitment of response resources to protect all sensitive and endangered areas. In addition to the maps presented in this figure, the Company hereby incorporates by reference any sensitive area, flora, and fauna listed in the ACP.

**FIGURE 6.2 (Cont'd)**

**Critical Habitats**



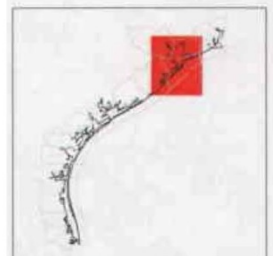
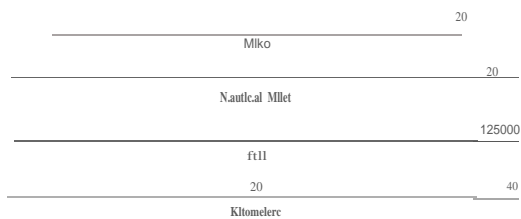
# Galveston Bay System Index Map



TEXAS  
OIL SPILL

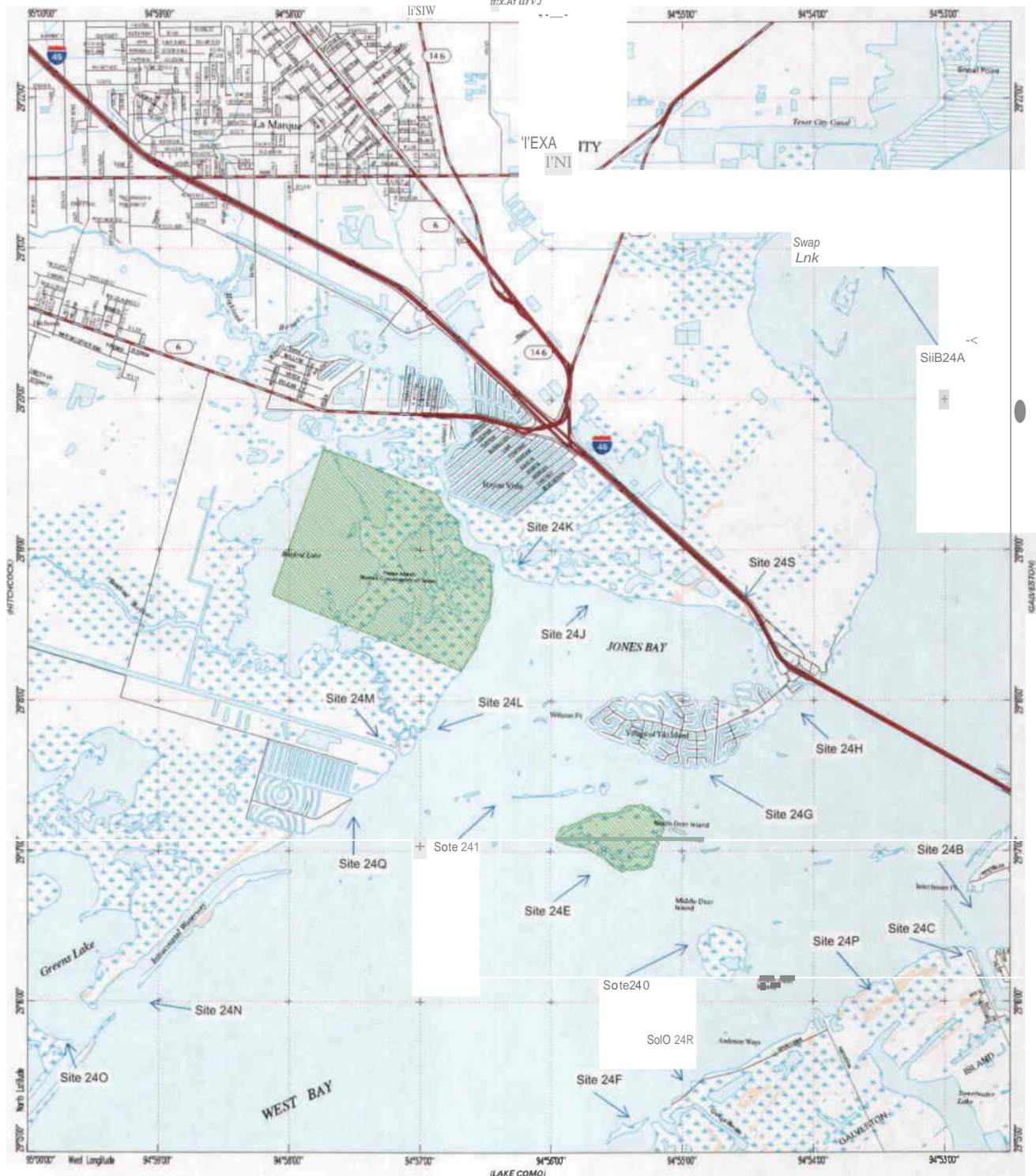


SCALE 1:436,444  
One Inch represents 6.89 miles

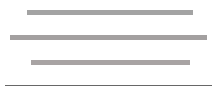




# Virginia Point Ba e Map



21.....231



[View Virginia Point Response Map](#)

[View all Virginia Point Site Specific Plans](#)

## Map legend

- CJ** L.M.a.&.v.River
- C:J** Met Welland, Swamp
- c::J** flat11Mud, S... TicMll
- 11"1M JdathdArea
- ContervdonAru
- Olvid Highway
- kdDOT
- 6LJeFeder- l-hchwey
- TdDOT
- CHV 6Llled/Countv Road
- kdDOT



T E X A 5

91°17'J()



LAKE COMO. o <6.

· freshwater swamps

68 • Exposed riprap structures

D MuNtUldl Area

ACP

(TEXAS CITY, p. 39)



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10

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54

100

2994

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## OIL SPILL

PREVENTION &amp; RESPONSE

25. *Answer: A*



ПОРА



### Flammable Materials

Assessment Div.

2994-232



# VIRGINIA POINT

Mao #42

HUMAN USE RESOURCES				
Boat Ramps				
RARNUM	NAME			
H552	Bayou Vista Bait and Tackle			
H553	Louis's			
H565	8-Mile Road Bait Camp			
H613	Sportsman Road			
H736	Harbor Cove			
H737	Charlie's Landing			
H738	Jones Lake State			
H739	Omega Bay			
Marinas				
RARNUM	NAMF	PHONE		
H157	Teakwood Marina	400 Tiki Drive	(409) 935-5552	
		Village of Tiki Island 77554		
Water Intake Points				
RARNUM	OWNFR	TVPT		
H74.R	T***** I***** Pr	1		

BIOLOGICAL RESOURCES														
Birds														
S/F T/E CONCEN J F M A M J J A S O N D NESTING LAYING HATCHING FLEECING														
67	Migratory songbirds													
384	Wading birds													
	Rails			X	X	X	X	X	X	X	X	X	X	X
386	Rails			X	X	X	X	X	X	X	X	X	X	X
	Wading birds			X	X	X	X	X	X	X	X	X	X	X
389	Rails			X	X	X	X	X	X	X	X	X	X	X
	Wading birds			X	X	X	X	X	X	X	X	X	X	X
390	Mottled duck			X	X	X	X	X	X	X	X	X	X	X
	Wading birds			X	X	X	X	X	X	X	X	X	X	X
392	Black skimmer			X	X	X	X	X	X	X	X	X	X	X
	Black skimmer			X	X	X	X	X	X	X	X	X	X	X
	Laughing gull			X	X	X	X	X	X	X	X	X	X	X
	Snowy egret			X	X	X	X	X	X	X	X	X	X	X
	Tricolored heron			X	X	X	X	X	X	X	X	X	X	X
395	Wading birds			X	X	X	X	X	X	X	X	X	X	X
	Rails			X	X	X	X	X	X	X	X	X	X	X
398	Cattle egret			X	X	X	X	X	X	X	X	X	X	X
	Wading birds			X	X	X	X	X	X	X	X	X	X	X
	Little blue heron			X	X	X	X	X	X	X	X	X	X	X
	Olivaceous cormorant			X	X	X	X	X	X	X	X	X	X	X
	Brown pelican	F	E	X	X	X	X	X	X	X	X	X	X	X
	Tricolored heron			X	X	X	X	X	X	X	X	X	X	X
	Great egret			X	X	X	X	X	X	X	X	X	X	X
	White-faced ibis			X	X	X	X	X	X	X	X	X	X	X
	Roseate spoonbill			X	X	X	X	X	X	X	X	X	X	X
	American oystercatcher			X	X	X	X	X	X	X	X	X	X	X
	Royal tern			X	X	X	X	X	X	X	X	X	X	X
	Black skimmer			X	X	X	X	X	X	X	X	X	X	X
	Caspian tern			X	X	X	X	X	X	X	X	X	X	X
	Sanderling			X	X	X	X	X	X	X	X	X	X	X
	Forster's tern			X	X	X	X	X	X	X	X	X	X	X
	Laughing gull			X	X	X	X	X	X	X	X	X	X	X
	Black-crowned night heron			X	X	X	X	X	X	X	X	X	X	X
	White ibis			X	X	X	X	X	X	X	X	X	X	X
	Snowy egret			X	X	X	X	X	X	X	X	X	X	X
	Long-billed curlew			X	X	X	X	X	X	X	X	X	X	X
	Ruddy turnstone			X	X	X	X	X	X	X	X	X	X	X
	Great blue heron			X	X	X	X	X	X	X	X	X	X	X
	Black skimmer			X	X	X	X	X	X	X	X	X	X	X
	Forster's tern			X	X	X	X	X	X	X	X	X	X	X
401	Sanderling			X	X	X	X	X	X	X	X	X	X	X
	Royal tern			X	X	X	X	X	X	X	X	X	X	X
	Brown pelican			X	X	X	X	X	X	X	X	X	X	X
	American oystercatcher			X	X	X	X	X	X	X	X	X	X	X
	billed curlew			X	X	X	X	X	X	X	X	X	X	X
	Laughing gull			X	X	X	X	X	X	X	X	X	X	X
	Least tern			X	X	X	X	X	X	X	X	X	X	X
	Great egret			X	X	X	X	X	X	X	X	X	X	X
	Little blue heron			X	X	X	X	X	X	X	X	X	X	X
	Great blue heron			X	X	X	X	X	X	X	X	X	X	X
	Wading birds			X	X	X	X	X	X	X	X	X	X	X
	Snowy egret			X	X	X	X	X	X	X	X	X	X	X
	White ibis			X	X	X	X	X	X	X	X	X	X	X
402	Wading birds			X	X	X	X	X	X	X	X	X	X	X

# VIRGINIA POINT CONTINUED

## BIOLOGICAL RESOURCES CONT.

### Birds Continued

RARNUM		NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	FLEDGING	
403		American oystercatcher			LOW	X	X	X	X	X	X	X				X	X		MAY-AUG	MAY-AUG	MAY-SEP
656		Forster's tern			5	X	X	X	X	X	X	X				X	X		MAR-AUG	MAR-AUG	MAR-SEP
		Lau hin ull			40	X	X	X	X	X	X	X				X	X		FEB-AUG	FEB-AUG	MAR-SEP
		Royal tern			20	X	X	X	X	X	X	X				X	X		FEB-AUG	FEB-AUG	MAR-SEP
660		Gull-billed tern			5	X	X	X	X	X	X	X				X	X		FEB-AUG	FEB-AUG	MAR-SEP
		Forster's tern			6	X	X	X	X	X	X	X				X	X		MAR-AUG	MAR-AUG	MAR-SEP
		Black skimmer			260	X	X	X	X	X	X	X				X	X		APR-SEP	APR-SEP	APR-SEP

### Reptiles/Amphibians

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	FLEDGING
323	Diamondback terrapin				X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	MAY-JUL	MAY-SEP
390	Diamondback terrapin				X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	MAY-JUL	MAY-SEP
398	Diamondback terrapin				X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	MAY-JUL	MAY-SEP
771	Texas diamondback terrapin C2			N															

### Fish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
385	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	OCT-DEC
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	JUL-MAR
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
389	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	APR-OCT
	Spot				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	NOV-FEB
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
390	Bull shark				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Pinfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Atlantic croaker			HIGH	X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
392	Atlantic croaker			HIGH	X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAY-AUG
395	Gulf menhaden			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
	Seatrout				X	X	X	X	X	X	X	X	X	X	X	X		
396	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	JUL-MAR
	Pinfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
	Sand seatrout				X	X	X	X	X	X	X	X	X	X	X	X		MAR-DEC
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
402	Lon nose killifish				X	X	X	X	X	X	X	X	X	X	X	X		
	Inland silverside				X	X	X	X	X	X	X	X	X	X	X	X		
407	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
	Sand seatrout				X	X	X	X	X	X	X	X	X	X	X	X		MAR-DEC
	Pinfish			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC

### Shellfish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	FLEDGING
323	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL	APR-JUL
384	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN	FEB-JUN
385	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN	FEB-JUN
386	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN	FEB-JUN
	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL	APR-JUL
390	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN	FEB-JUN
392	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG	MAY-AUG
	Brown shrimp			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN	FEB-JUN
395	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN	FEB-JUN
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT	MAY-OCT
	Grass shrimp				X	X	X	X	X	X	X	X	X	X	X	X			
396	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL	APR-JUL
	Brown shrimp			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN	FEB-JUN
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG	MAY-AUG
398	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL	APR-JUL
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN	FEB-JUN
401	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL	APR-JUL
403	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL	APR-JUL
407	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL	APR-JUL
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN	FEB-JUN
					X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT	MAY-OCT

# VIRGINIA POINT

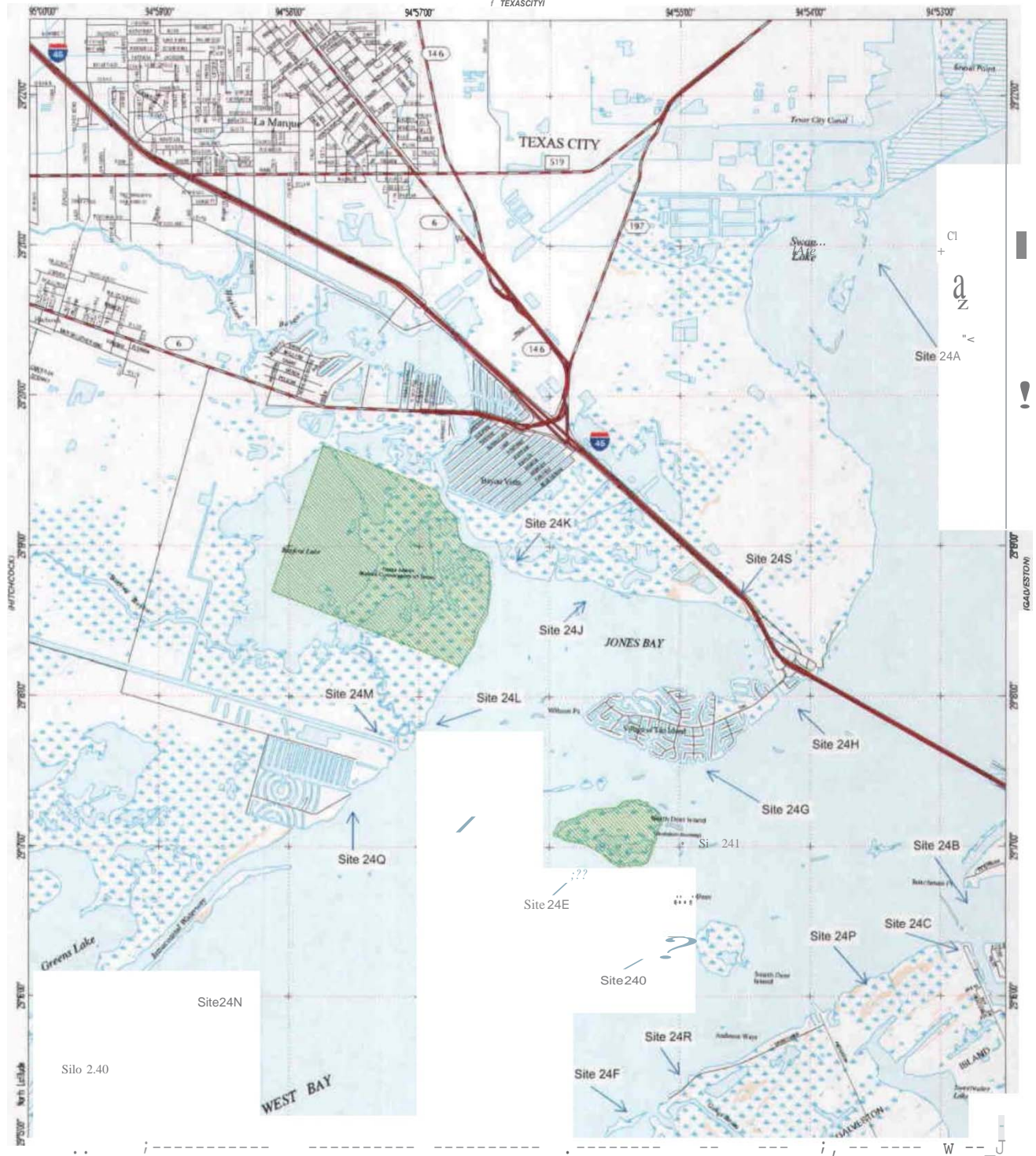
Map# 42

Note: All of West Bay on VirQira Point quad contains oyster beds that can be exposed at low tide.

Polygon #	Priority	Description: what organism(s), habitat(s)?
<i>Pinchpoint at mouth of Little Greens Bayou can be boomed to protect polygons 3, 4, and part of polygon 1 from spills in Greens Lake.</i>		
1	High	Marshes flanking Greens Lake (a, b, c). Wetlands (high), bird habitat (high), nursery (high). Continued on Hitchcock quad.
2	Medium	Greens Lake. Bird habitat (high), nursery (high). scattered oysters. Continued on Hitchcock quad.
3	Medium	North of Greens Lake. Wetlands (high), nursery (high).
4	Low	Areas north of Greens Lake and west of failed Flamingo Isle subdivision (a, b, c). Wetlands (high).
<i>Pinchpoints at (1) mouth of Basford Bayou and (2) canal off north shore of Highland Bayou diversionary canal can be boomed to protect polygons 5, 6, and parts of 7 and 8 from spills in Jones Bay.</i>		
<i>Pinchpoints at (1) mouth of Highland Bayou and (2, 3) several cuts along north shore of Jones Bay (some not shown on USGS base map) can be boomed to protect polygon 5 and eastern portions of polygons 6 and 7 from spills in Jones Bay.</i>		
5	Low	(a) Upper Basford Bayou and (b) lower Highland Bayou and associated marsh. Nursery (high).
6	Medium	Marshes west and east of Highland Bayou, north of Jones Bay. Wetlands (high), nursery (high).
7	High	(a) North shore of Jones Bay, east of Highland Bayou, and (b) lower Basford Bayou drainage and area west of Highland Bayou. Wetlands (high), bird habitat (high), nursery (high).
8	Low	West shore of Jones Bay, north of mouth of Basford Bayou. Bird habitat (high).
9	High	Jones Bay. Nursery (high). bird habitat (medium). Diamondback terrapin habitat (seasonal) <u>Note:</u> All rookeries are seasonally active; colonial waterbirds nesting February -August.
10	High	Islands In Jones Bay. Nursery (high), rookery (low). Diamondback terrapin habitat (seasonal).
11	High	South Jones Bay islands, parallel to GIWW. Rookery (medium) Diamondback terrapin habitat
12	High	Northern North Deer Island and southern perimeter. Rookery (high), nursery (high) Diamondback terrapin habitat.
13	High	Marshes in southern North Deer Island. Wetland (high), rookery (high), nursery (high). Diamondback terrapin habitat.
14	Medium	Jigsaw Island and islets: (a) east of North Deer Island parallel to GIWW, (b) west of Teichman Point. Rookery (high). nursery (high).
15	High	South Deer Island. Wetlands (high), nursery (high), rookery (high).
<i>Pinchpoint at mouth of Sweetwater Lake can be boomed to protect polygons 16 and 17 (and polygon of Lake Como quad) from spills in West Bay or Galveston Bay.</i>		
16	Low	Sweetwater Lake. Nursery (high).
17	Medium	Interdune marshes flanking Sweetwater Lake (a-e). Wetlands (high), nursery (high)
<i>Pinchpoint at culvert near end of Sportsmans Road (Anderson Ways) can be boomed to protect polygons 18 and 19 from spills in West Bay.</i>		
18	Low	South of Anderson Ways. Wetlands (high).
19	High	Lower Gangs Bayou. Wetlands (high), nursery (high). birds habitat (high); scattered oysters emergent at low tides. Continued on Lake Como quad.
<i>Pinchpoints at mouth of Campbell Bayou and northern entrance to Swan Lake (not shown on USGS base map) can be boomed to protect polygons 20-22 and part of 23 from spills in Galveston Bay.</i>		
20	Low	West of Swan Lake. Wetlands (high).
21	Medium	Western shoreline of Swan Lake. Wetlands (high), bird habitat (high).
22	High	Northern (a, b), eastern (c), and southern (d, e) shores of Swan Lake. Wetlands (high), bird habitat (high). nursery (medium).
23	Medium	Swan Lake (a) and Galveston Bay shoreline at Swan Lake (b). Bird habitat (high), nursery (medium).
24	Low	West Offatt Bayou. Nursery and fishing (medium), oysters (medium). Continued on Galveston quad.

# Virginia Point Base Map

TEXASCITY



[View Virginia Point Response Map](#)

[View all Virginia Point Site Specific Plans](#)

Map U'gend

**C=J** Lat., Say, Alive  
**M.**th. Wer.,nd , Sw+mp  
**C=J** FMittlMud.S.nd rmm  
**CJ** L,amMtedAlca

**Co-bonAIRY**  
 DMdld HighwIT  
 >DOT  
 SthaFedeTelH gth v  
 TxDOT  
 City StreeJCounty Road  
 L>DOT



## 24. VIRGINIA POINT

SW Galveston Bay, West Bay, Jones Bay and GIWW

CHART(S): Nautical Chart (11324 & 11322)  
Upper Coast Atlas Page 42

STAGING AREA: 1. Fat Boy's Bait & Boat Ramp (2) 29° 18'25"N  
094°54'24"W

2. Teakwood Marina (1) 29°18'03"N 094°54'19"W

3. T&T Marine (Staging Area)

ACCESS ROAD: 1. I-45 south from Houston to Tiki Island exit, loop to the right and proceed north to boat ramp

2. I-45 south from Houston to Tiki Island exit, follow sign to Marina on left.

3. I-45 south from Houston to Teichman Rd., turn right and proceed to the end of the road at T&T Marine.

### DISCRIPTION:

Swift currents (2+) in this area will require cascading diversion boom techniques to divert product away from sensitive areas, or to collection sites.

Galveston Bay

24-A Boom to protect Swan Lake

West Bay

24-B Boom to protect Offatts Bayou

24-C Boom entrance to Sydnor Bayou (460' wide)

24-D Boom to protect South Deer Island

24-E Boom to protect North Deer Island

24-F Boom to protect Gangs Bayou

24-G Boom canals to Village of Tiki Island

24-H Boom entrance to Jones Bay East Tiki Island (210' wide)

24-I Boom to protect Islands in south Jones Bay

Jones Bay

24-J Boom three marsh entrances north Jones Bay east of Highland Bayou

24-K Boom entrance to Highland Bayou (640' wide)

24-L Boom entrance to Basford Bayou (600' wide)

24-M Boom entrance to canal west of Basford Bayou (220' wide)

GIWW

24-N Boom entrance to West Bay at Mile 364.3 (1,650' wide)

24-O Boom entrance to Greens Lake (2,850' wide)

24-P Boom entrance to Sweetwater Lake

24-Q Boom to protect Flamingo Isles.

24-R Boom to protect tidal inlet off Sportsman Road

24-S Boom to protect tidal inlet on the north side of Jones Bay

NOTIFY:

Texas Parks & Wildlife Dept.  
U.S. Fish & Wildlife Service

(281) 461-4071 Houston  
(281) 286-8282 Houston

CAUTION:

Very shallow water near the shoreline, shallow draft boats, or airboats may be required to respond.

NATURAL COLLECTION AREA:

Due to the extensive marshland and shallow water located in this area, there are not any good collection sites noted.



## Site Specific Information

Site# 24-A TGLO Polygon# 23

Quad Narne Virginia Point



### Site information:

Site Description: Swan Lake

Latitude:	N 29°20'25"	Longitude:	W 094°53'45"	Map#	42
NOAA chart #	11324, 11322	County:	Galveston		
Nearest ICW Marker:	357	Date last visited:	March 23, 2005		

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

### From MSU Galveston:

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800)424-8802
	TXGLO via Hotline	(800) 832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Habitat for fish, wading birds, bi-valves, shrimp
Economic:	N/A

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-8	Width of inlet:	15,000 ft
Current:	Medium	Water depth at mouth:	3 ft

Safety / Cautionary notes:

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**THE JOHN M. O'QUINN I-45 ESTUARIAL CORRIDOR  
and VIRGINIA POINT PENINSULA PRESERVE**

PROJECT LIMIT

SWAN LAKE

CAMPBELL BAYOU FACILITY  
GULF COAST  
WASTE DISPOSAL AUTHORITY

PROJECT LIMIT

MALONE  
SUPER FUND SITE

PROJECT LIMIT

BAYOU VISTA

JOHN M. O'QUINN I-45 ESTUARIAL CORRIDOR PRESERVE

EMERGENT INTERTIDAL WETLANDS

REITAN POINT TURNOUT, 1998  
(completion, 2004)

KIRKPATRICK  
ADVENTURE TRAIL, 1998

EMERGENT INTERTIDAL WETLANDS

HIGHLAND BAYOU

WEST MARSH

PROJECT LIMIT

JEFF DALLAROSA  
REDFISH POND

PATE LANDFILL REMOVAL  
& MARSH CREATION, 2002

TAMBURINE LANDFILL REMOVAL  
& MARSH RESTORATION, 1999

MASON MARSH 11B  
BIRD ISLANDS MARSH CREATION, 2001

MINELLO MARSH 9 & 10 RESTORATION, 2003

DIMITRIVILLE

REITAN MARSH

EAST MARSH

EAST WEDGE

WEST WEDGE

VIRGINIA POINT  
PENINSULA PRESERVE  
1490 ACRES, 2004  
(Emergent intertidal wetlands,  
Spartina patens meadows, coastal prairies,  
with historic sites)

WILL ROACH  
BIRDING TRAIL AND DUCK POND

CALNAN COASTAL PRairie

PROJECT LIMIT

ROGER ZIMMERMAN  
OYSTER REEFS

SG's  
WETLANDS  
SANDBAR  
COASTLINE

SUSAN MCGUFFEY  
LITTLE PEOPLES MARSH

JONES BAY

GALVESTON BAY

SCENIC GALVESTON, Inc. PROJECT MAP

## SCENIC GALVESTON, Inc. PROJECT MAP

## Site Specific Information

Site# 24-B TGLO Polygon# 23

Quad Name Virginia Point

### Site information:

Site Description: Offatts Bayou

Latitude: N 29°16'44" Longitude: W 094°52'59" Map# 42  
NOAA chart# 11324, 11322 County: Galveston  
Nearest ICW Marker: 357 Date last visited: March 23, 2005

### Access:

Closest Boat Ramp: Private ramp  
Distance: minutes  
Boat type recommended: Shallow hull or airboat  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29° 15'55.16"N  
094°51 '37.46"W

From MSU Galveston:

### Trustees/ Contact Numbers:

U.S.C.G. via NRC (800) 424-8802  
TXGLO via Hotline (800) 832-8224  
TCEQ (512) 463-7727

### Resources at Risk:

Atlas Priority: Medium  
Environmental: Habitat for fish, wading birds, shrimp, bi-valves  
Economic: N/A

### Booming trat gy recommendation :

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 4-6 Width of inlet: 3000 ft  
Current: Medium Water depth at mouth: 12 ft

Safety /Cautionary notes:

---



## Site Specific Information

Site # 24-C TGLO Polygon # N/A

Quad Name Virginia Point

### Site information:

Site Description: Entrance to Sydnor Bayou

Latitude:	N 29°16'01"	Longitude:	W 94°52'28"	Map#42
NOAA chart#	11324, 11322	County:	Galveston	
Nearest ICW Marker:	357	Date last visited:	March 23, 2005	

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29° 15'55.16"N 094°51 '37.46"W

From MSU Galveston:

### Trustees/ Contact Numbers:

U.S.C.G. via NRC	(800)424-8802
TXGLO via Hotline	(800)832-8224
TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority:	N/A
Environmental:	N/A
Economic:	N/A

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-6	Width of inlet:	30 ft
Current:	Medium	Water depth at mouth:	6 ft

Safety /Cautionary notes:

---

## Site Specific Information

Site # 24-C-1  
Point

TGLO Polygon # \_\_\_\_

Quad Name Virginia



### Site information:

Site Description: Housing area Entrance to Sydnor Bayou

Latitude:	N 29°16'29"	Longitude:	W 94°52'48"	Map#42
NOAA chart #	11324, 11322	County:	Galveston	
Nearest ICW Marker:	357	Date last visited:	March 23, 2005	

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N
<u>094°51 '37.46"W</u>	

From MSU Galveston:

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800)424-8802
	TXGLO via Hotline	(800)832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority:	N/A
Environmental:	N/A
Economic:	N/A

### Booming trat gy recommendation :

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-4	Width of inlet:	600 ft
Current:	Medium	Water depth at mouth:	11 ft

Safety / Cautionary notes:

## Site Specific Information

Site# 24-D TGLO Polygon# N/A

Quad Name Virginia Point

---

### Site information:

Site Description: South Deer Island

Latitude:	N 29° 16'28"	Longitude:	W 094°55'01"	Map#	42
NOAA chart#	11324, 11322	County:	Galveston		
Nearest ICW Marker:	357	Date last visited:	March 23, 2005		

#### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

### From MSU Galveston:

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800) 424-8802
	TXGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	N/A
Environmental:	N/A
Economic:	N/A

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-4	Width of inlet:	N/A ft
Current:	Medium	Water depth at mouth:	N/Aft

Safety / Cautionary notes:

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## Site Specific Information

Site# 24-E TGLO Polygon# N/A

Quad Name Virginia Point



### Site information:

Site Description: North Deer Island

Latitude:	N 29° 17' 19"	Longitude:	W 94° 55' 06"	Map#	42
NOAA chart#	11324, 11322	County:	Galveston		
Nearest ICW Marker:	357	Date last visited:	March 23, 2005		

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29° 15' 55.16"N
094° 51 '37.46"W	

### From MSU Galveston:

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800)424-8802
	TXGLO via Hotline	(800)832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority:	N/A
Environmental:	N/A
Economic:	N/A

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-4	Width of inlet:	N/Aft
Current:	Medium	Water depth at mouth:	N/Aft

Safety / Cautionary notes:

---

## Site Specific Information

Site# 24-F

TGLO Polygon# 19

Quad Name Virgin a Point



### Site information:

Site Description: Gang's Bayou

Latitude: N29°15'19" Longitude: W94°55'14" Map#42  
NOAA chart# 11324, 11322 County: Galveston  
Nearest ICW Marker: 357 Date last visited: March 23, 2005

### Access:

Closest Boat Ramp: Private ramp  
Distance: minutes  
Boat type recommended: Shallow hull or airboat  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51 '37.46"W

From MSU Galveston:

Trustees/ Contact Numbers: U.S.C.G. via NRC (800) 424-8802  
TXGLO via Hotline (800) 832-8224  
TCEQ (512) 463-7727

### Resources at Risk:

Atlas Priority: High  
Environmental: Habitat for gulls, terns  
Economic: N/A

### Booming strategy recommendation :

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 2-4 Width of inlet: 200 ft  
Current: Medium Water depth at mouth: 3 ft

Safety / Cautionary notes:

---



## Site Specific Information

Site # 24-G TGLO Polygon # 10

Quad Name Virginia Point



### Site information:

Site Description: East Entrance to Tiki Island @ Jones Bay

Latitude:	N 29°18'12"	Longitude:	W 94°54'43"	Map#	42
NOAA chart#	11324, 11322	County:	Galveston		
Nearest ICW Marker:	357	Date last visited:	March 23, 2005		

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51'37.46"W

From MSU Galveston:

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800)424-8802
	TXGLO via Hotline	(800) 832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority:	High
Environmental:	Habitat for fish, wading birds, turtles, shrimp, crabs, gulls, terns
Economic:	N/A

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-6	Width of inlet:	210 ft
Current:	Medium	Water depth at mouth:	12 ft

Safety / Cautionary notes:

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## Site Specific Information

Site# 24-H    TGLO Polygon # 10    Quad Name Virginia Point

### Site information:

Site Description: Representative channel of Tiki Island

Latitude:	N 29° 17'24"	Longitude:	W 094°55'28"	Map#	42
NOAA chart#	11324, 11322	County:	Galveston		
Nearest ICW Marker:	357	Date last visited:	March 23, 2005		

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29° 15'55.16"N 094°51 '37.46"W

From MSU Galveston:

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TXGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	High
Environmental:	Habitat for fish, wading birds, turtles, gulls, terns, crabs, shrimp
Economic:	N/A

### Booming | strategy recommendations:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-6	Width of inlet:	100 ft
Current:	Medium	Water depth at mouth:	8 ft

Safety / Cautionary notes:

---

## Site Specific Information

Site# 24-1      TGLO Polygon# 12

Quad Name Virginia Point



### Site information:

Site Description: Island in Jones Bay

Latitude:	N 29° 17'50"	Longitude:	W 094°56'30"	Map#	42
NOAA chart#	11324, 11322	County:	Galveston		
Nearest ICW Marker:	357	Date last visited:	March 23, 2005		

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N
094°51 '37.46"W	

### From MSU Galveston:

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800)424-8802
	TXGLO via Hotline	(800) 832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority:	Low
Environmental:	Habitat for fish, wading birds, waterfowl
Economic:	N/A

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-4	Width of inlet:	N/A ft
Current:	Medium	Water depth at mouth:	N/A ft

Safety / Cautionary notes: \_\_\_\_\_

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## Site Specific Information

Site# 24-K TGLO Polygon# 5

Quad Name Virginia Point



### Site information:

Site Description: Highland Bayou

Latitude:	N29°18'43"	Longitude:	W94°56'44"	Map#42
NOAA chart#	11324, 11322	County:	Galveston	
Nearest ICW Marker:	357	Date last visited:	March 23, 2005	

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N
<u>094°51 '37.46"W</u>	

From MSU Galveston:

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800)424-8802
	TXGLO via Hotline	(800)832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority:	Low
Environmental:	Habitat for fish, wading birds, waterfowl
Economic:	N/A

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-4	Width of inlet:	640ft
Current:	Medium	Water depth at mouth:	4 ft

Safety /Cautionary notes:

---

## Site Specific Information

Site# 24-L TGLO Polygon# 5

Quad Name Virginia Point



### Site information:

Site Description: Entrance to Basford Bayou

Latitude: N 29° 17'42" Longitude: W 94° 57'01" Map# 42  
NOAA chart # 11324, 11322 County: Galveston  
Nearest ICW Marker: 357 Date last visited: March 23, 2005

#### Access:

Closest Boat Ramp: Private ramp  
Distance: minutes  
Boat type recommended: Shallow hull or airboat  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51 '37.46"W

### From MSU Galveston:

Trustees/ Contact Numbers: U.S.C.G. via NRC (800) 424-8802  
TXGLO via Hotline (800) 832-8224  
TCEQ (512) 463-7727

### Resources at Risk:

Atlas Priority: Low  
Environmental: Habitat for fish, wading birds, waterfowl  
Economic: N/A

### Booming strategy recommendation :

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 4-6 Width of inlet: 50 ft  
Current: Medium Water depth at mouth: 3ft

Safety / Cautionary notes: \_\_\_\_\_

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## Site Specific Information

Site# 24-M TGLO Polygon# 8

Quad Name Virginia Point

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### Site information:

Site Description: Canal West of Basford Bayou

Latitude: N 29°17'34" Longitude: W 094°56'10" Map# 42  
NOAA chart# 11324, I1322 County: Galveston  
Nearest ICW Marker: 357 Date last visited: March 23,2005  
Access:  
Closest Boat Ramp: Private ramp  
Distance: minutes  
Boat type recommended: Shallow hull or airboat  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51'37.46"W

From MSU Galveston:

U.S.C.G. via NRC (800)424-8802  
TXGLO via Hotline (800) 832-8224  
TCEQ (512) 463-7727

### Trustees/ Contact Numbers:

#### Resources at Risk:

Atlas Priority: Low  
Environmental: Habitat for fish, wading birds, waterfowl  
Economic: N/A

#### Booming strategy recommendation :

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 2-4 Width of inlet: 220 ft  
Current: Medium Water depth at mouth: 4ft

Safety /Cautionary notes:

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## Site Specific Information

Site# 24-N TGLO Polygon# 1

Quad Name Virginia Point

### Site information:

Site Description: Green's Cut@ West Bay

Latitude:	N 29°16'01"	Longitude:	W 94°59'25"	Map#42
NOAA chart#	11324, 11322	County:	Galveston	
Nearest ICW Marker:	357	Date last visited:	March 23, 2005	

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

From MSU Galveston:

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TXGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

<del>Atlas Priority:</del>	High
Environmental:	Habitat for fish, wading birds, waterfowl
Economic:	N/A

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-6	Width of inlet:	1650 ft
Current:	Medium	Water depth at mouth:	3 ft

Safety / Cautionary notes:

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## Site Specific Information

Site # 24-0 TGLO Polygon # 2

Quad Name Virginia Point

### Site information:

Site Description: Entrance to Greens Lake

Latitude: N29°15'44"	Longitude: W94°59'41"	Map#42
NOAA chart# 11324, 11322	County: Galveston	
Nearest ICW Marker: 357	Date last visited: March 23, 2005	

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

From MSU Galveston:

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TXGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Habitat for fish, wading birds
Economic:	N/A

### Booming strategy recommendation:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-6	Width of inlet:	2850 ft
Current:	Medium	Water depth at mouth:	5 ft

Safety /Cautionary notes:

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## Site Specific Information

Site# 24-P TGLO Polygon# 17

Quad Name Virginia Point

### Site information:

Site Description: Entrance to Sweetwater Lake

Latitude:	N 29°16'13"	Longitude:	W 94°53'27"	Map#42
NOAA chart#	11324, 11322	County:	Galveston	
Nearest ICW Marker:	357	Date last visited:	March 23, 2005	

### Access:

Closest Boat Ramp:	Private ramp
Distance:	minutes
Boat type recommended:	Shallow hull or airboat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

From MSU Galveston:

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TXGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Habitat for fish, wading birds
Economic:	N/A

### Booming trat gy recommendations:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-4	Width of inlet:	300 ft
Current:	Minimal	Water depth at mouth:	3 ft

Safety / Cautionary notes:

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## Site Specific Information

Site # 24-Q TGLO Polygon # 4

Quad Name Virginia Point

### Site information:

Site Description: Flaming Isles

Latitude: N 29° 17'22" Longitude: W 94°57'24" Map# 42  
NOAA chart# 11324,11322 County: Galveston  
Nearest ICW Marker: 357 Date last visited: March 23, 2005

### Access:

Closest Boat Ramp: Private ramp  
Distance: minutes  
Boat type recommended: Shallow hull or airboat  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51 '37.46"W

From MSU Galveston:

Trustees/ Contact Numbers: U.S.C.G. via NRC (800)424-8802  
TXGLO via Hotline (800) 832-8224  
TCEQ (512)463-7727

### Resources at Risk:

Atlas Priority: Low  
Environmental: Habitat for fish, wading birds, waterfowl  
Economic: N/A

### Booming strategy recommendation :

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 2-4 Width of inlet: 150ft  
Current: Slow Water depth at mouth: 6 ft

Safety / Cautionary notes:

---

---

## Site Specific Information

Site# 24-R TGLO Polygon# 18

Quad Name Virginia Point

### Site information:

Site Description: Tidal Entrance off Sportsman's Road

Latitude: N 29° 16'08" Longitude: W 094°53'51" Map# 42  
NOAA chart# 11324, 11322 County: Galveston  
Nearest ICW Marker: 357 Date last visited: March 23, 2005

### Access:

Closest Boat Ramp: Private ramp  
Distance: minutes  
Boat type recommended: Shallow hull or airboat  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51 '37.46"W

From MSU Galveston:

### Trustees/ Contact Numbers:

U.S.C.G. via NRC (800) 424-8802  
TXGLO via Hotline (800) 832-8224  
TCEQ (512) 463-7727

### Resources at Risk:

~~Atlas Priority:~~ Low  
Environmental: Habitat for fish, wading birds  
Economic: N/A

### Booming -trate10\* recommendation :

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 2-4 Width of inlet: 90 ft  
Current: Medium Water depth at mouth: 2 ft

Safety / Cautionary notes:

---

## Site Specific Information

Site # 24-S TGLO Polygon # 5

Quad Name Virginia Point



### Site information:

Site Description: Marsh North side of Jones Bay

Latitude: N 29°18'49" Longitude: W 094°56'20" Map# 42  
NOAA chart # 11324, 11322 County: Galveston  
Nearest ICW Marker: 357 Date last visited: March 23, 2005

### Access:

Closest Boat Ramp: Private ramp  
Distance: minutes  
Boat type recommended: Shallow hull or airboat  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51 '37.46"W

### From MSU Galveston:

Trustees/ Contact Numbers: U.S.C.G. via NRC (800) 424-8802  
TXGLO via Hotline (800) 832-8224  
TCEQ (512) 463-7727

### Resources at Risk:

Atlas Priority: Low  
Environmental: Habitat for fish, wading birds, waterfowl  
Economic: N/A

### Booming strategy recommendations:

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 2-4 Width of inlet: N/A ft  
Current: Medium Water depth at mouth: N/A ft

Safety / Cautionary notes: \_\_\_\_\_

---



# Galveston

DATA

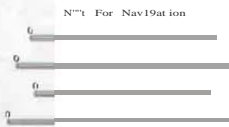
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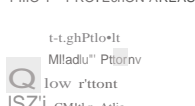
Hazardous Material Response and Assessment Division



## MAN-USE FEATURES



## PROTECTION AREAS



## ENVIRONMENTAL SENSITIVITY INDEX

- |  |  |
|--|--|
| IOC - Freshwater swamps                  | 68 - Exposed nrap structures                 |
| 108 - Freshwater marshes                 | 6A - Gravel beaches                          |
| Salt and brackish water marshes          | 5 - Mixed sand and gravel beaches            |
| 9 - Sheltered tidal flats                | 4 - Coarse-grained sand beaches              |
| BC - Sheltered scarps                    | 38 - Scarps and steep slopes in sand         |
| 88 - Sheltered nrap structures           | 3A - Fine-grained sand beaches               |
| SA - Sheltered solid man-made structures | 28 - Wave-cut day platforms                  |
| 7 - Exposed tidal flats                  | 2A - Scarps and steep slopes in clay         |
|  | t - Exposed walls and other solid structures |

- D Municipal Area
- D Marsh, Wetland
- D Tidal/Mud Flat
- D Bellch, Bar
- D Inundated Area
- D Park - City or County
- D Bird Rookery Area
- D Oy&III Reef
- D Oy1ter Shell on Mud

# GALVESTON

# Map #41

## HUMAN USE RESOURCES

### Beach Access Points

STREET	
45	15th Street
46	16th Street

### Boat Ramps

RAMP	NAME
H551	Texas City Dike Marina
H597	Havre lafitte
H715	TAMU Oil Spill Control
H716	TAMU Oil Spill Control
H734	Turtle lake Apartments
H735	Pleasure Island
H746	Ermin Pilsner Public

### Coast Guard Facilities

NAME	PHONE
H427 Galveston Group/Base/ Ant	(409) 766-5605
H428 MSU Galveston	(409) 766-3655

### Heliports

RAMP	PHONE
H1199 UTMB life Flight	(409) 772-4355
H1201 Donny Grasso	(713) 488-7161
H1200 J. E. Whitman	(504) 588-4591

### Marinas

NAME	PHONE
H135 Roberts/Zimmerman Marina 9415 Teichman	(409) 740-1310
H140 Galveston Yacht Basin 715 Holiday Dr. North	(409) 762-9689
H141 The landings of Galveston 7302 Heard's lane	(409) 744-3625
H160 Payco Marina Inc. 8821 Broadway	(409) 744-7428

## BIOLOGICAL RESOURCES

NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	MATING	CALVING
412 rose dolphin																JAN-DEC	JAN-DEC
415 rose dolphin																JAN-DEC	JAN-DEC
417 rose dolphin																JAN-DEC	JAN-DEC
431 rose dolphin																JAN-DEC	JAN-DEC
566 rose dolphin																JAN-DEC	JAN-DEC

### Birds

NAME	S	F	T	E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	MATING	CALVING
177 least tern																			MAY-SEP
415 loon																			MAY-OCT
lesser scaup																			
goldeneye																			
416 goldeneye																			
lesser scaup																			
loose																			
417 frigatebird	S				SC														
skimmer																			
418 egret	S				T														
427 laughing gull					HIGH														
Forster's tern																			
pelican	F				E														
birds																			
566 Franklin's gull																			
661 tern																			
night heron																			
11000																			
100																			
5600																			
6																			
40																			
20																			
20																			
50																			
2200																			
10																			
20																			
250																			
30																			
1																			
0																			
10																			



# GALVESTON CONTINUED

## BIOLOGICAL RESOURCES CONT.

### Birds Continued

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	FLEDGING
661 Cont.	White-faced ibis	S	T	30	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
662	Laughing gull			21115	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP
	Gull-billed tern			15	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	FEB-AUG	MAR-SEP

### Reptiles/Amphibians

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	HATCHING
417	Kemp's ridley sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-
	Loggerhead sea turtle	S/F	E/T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-
771	Texas diamondback terrapin	F	C2															
773	Gulf saltmarsh snake	F	C2															

### Fish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
409	Seatrout				X	X		X	X	X	X	X	X	X	X	X	-	-
	Pinfish				X	X		X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Creville jack				X	X	X	X	X	X	X	X	X	X	X	X		
411	Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Sheepshead minnow				X	X	X	X	X	X	X	X	X	X	X	X	MAR-OCT	MAR-DEC
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
412	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
415	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
	Seatrout				X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
416	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Sand seatrout				X	X	X	X	X	X	X	X	X	X	X	X		MAR-DEC
	Seatrout				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
417	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		
	Black drum				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	JUL-MAR
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
	Spanish mackerel				X	X	X	X	X	X	X	X	X	X	X	X		
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
418	Sand seatrout			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-DEC
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
420	Seatrout				X	X	X	X	X	X	X	X	X	X	X	X		
	Red drum			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Gulf Killifish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	JAN-DEC
431	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Seatrout				X	X	X	X	X	X	X	X	X	X	X	X		
	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
566	Gafftopsail catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAY-AUG
	Florida pompano				X	X	X	X	X	X	X	X	X	X	X	X		
	Sharks				X	X	X	X	X	X	X	X	X	X	X	X		
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
	Gray snapper				X	X	X	X	X	X	X	X	X	X	X	X		
	Hardhead catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	JUN-OCT
	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC

### Shellfish

409	Brown shrimp				X	X	X	X			X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X			X	X	X	X	X	X	APR-JUL	MAY-AUG
	Stone crab				X	X	X	X			X	X	X	X	X	X	MAY-SEP	JUN-SEP
412	Brown shrimp				X	X	X	X	X		X	X	X	X	X	X	NOV-MAR	FEB-JUN
415	Brown shrimp				X	X	X	X			X	X	X	X	X	X	NOV-MAR	FEB-JUN
	White shrimp				X	X	X	X			X	X	X	X	X	X	MAY-OCT	MAY-OCT
416	Brown shrimp				X	X	X	X	X		X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X			X	X	X	X	X	X	APR-JUL	MAY-AUG
417	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
420	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
431	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
566	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
					X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Brown shrimp																	
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	Grass shrimp				X	X	X	X	X	X	X	X	X	X	X	X		

# GALVESTON CONTINUED

BIOLOGICAL RESOURCES CONT.		
Plants/Communities		
D.I.D.I.IIU	I\li.Patl"	<./J: T/J:
427	Cordarass	
E;E; 1	C::mnnth	



## GALVESTON

Map# 41

Note: Nestin!! season is February-August at Pelican Island rookeries (polygons 1,2,5,6,7,B,9).

Po/vQon#	Priority	Description: what organism(s), habitat(s)?
1	Medium	<b>Pelican Island Spit, north of GIWW.</b> Nursery and fishing (medium), rookery (medium). Pelican Island Spit contains largest rookery area in Galveston Bay System.
2	High	<b>Lee of Pelican Island Spit.</b> Wetlands (high), nursery (medium), fishing area (medium), rookery (medium); oyster reef emergent during low tides.
3	Medium	<b>West shore of Pelican Island.</b> Wetlands (high), nursery (medium).
4	Low	<b>Western Pelican Island.</b> Wetlands (high).
5	Medium	<b>Northwestern Pelican Island.</b> Wetlands (high), rookery (high), nursery (medium).
6	Medium	<b>Central Pelican Island.</b> Large rookery area (high).
7	High	<b>Northeastern shore of Pelican Island.</b> Wetlands (high), nursery (medium), rookery (medium).
8	Medium	<b>Off northeastern shore of Pelican Island.</b> Nursery (medium), fishing area (medium), rookery (medium).
9	Medium	<b>Eastern shore of Pelican Island.</b> Nursery (medium), fishing area (medium), rookery (medium).
<i>Pinchpoints (1) at mouth of Horseshoe Bayou and (2) at Loop 108 crossing (south of Port Bolivar) can be boomed to protect polygons 10 and 11.</i>		
10	Medium	<b>Marsh surrounding Horseshoe Lake.</b> Nursery (high), wetlands (high). Continued on Port Bolivar quad.
11	Medium	<b>Horseshoe Lake.</b> Nursery (high), wetlands (high). Continued on Port Bolivar quad.
12	Medium	<b>The Lagoon.</b> Nursery (high), wetlands (high). Heavy recreational fishing.
13	Low	<b>Offatt Bayou.</b> Nursery and fishing areas (medium), oysters (medium). Continued on Virginia Point quad.
14	Medium	<b>South shore of Offatt Bayou.</b> Wetlands (high), nursery (medium).
<i>Pinchpoint where 99th Street crosses Sydnor Bayou can be boomed to protect polygon 15</i>		
15	Medium	<b>East shore of Sydnor Bayou.</b> Wetlands (high), nursery (medium).

# Galveston Base Map

(PORT BOLIVAR)  
- 71

to 111r

Site23C

Site23K

Site 230

Site 238

Q.I..VESfON BAR

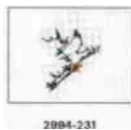
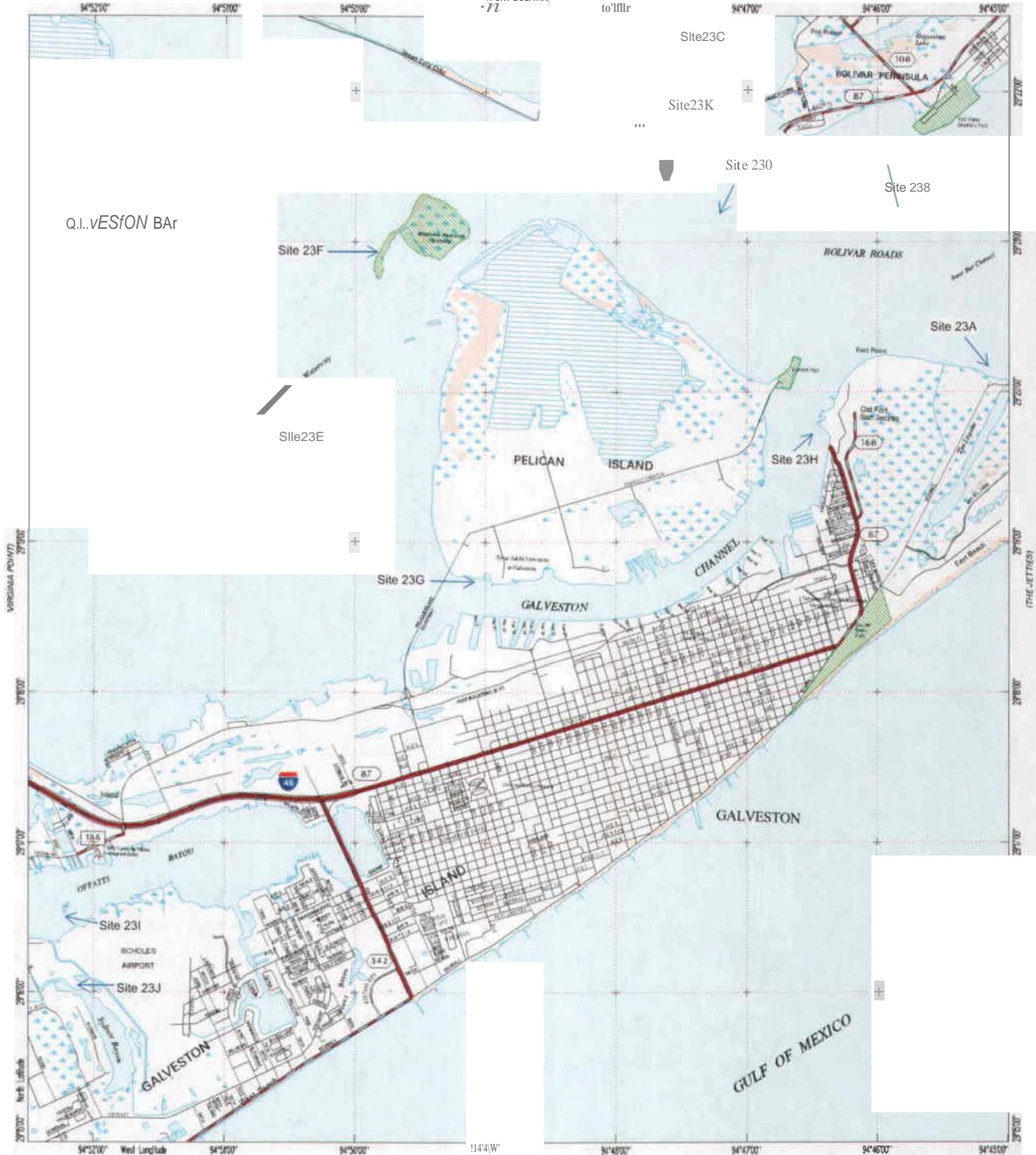
Site 23F

Site23E

Site 23G

Site 23H

Site 23A



2004-231

[View Galveston Response Map](#)

[View all Galveston Site Specific Plans](#)

## Map Legend

- CJ** L.M.e.Bey.River
- CJ** Mlorr..Woltad.Swemp
- C:::J** A.u. (Mud. S.nd. Tdel)
- C=J** Bekeh. Btr
- C:::J** Itil.J'lId4o Are.
- C:::J** em-r...Pon j.Ru
- C:::J** O'r'Idell'ghWTY
- C:::J** T:DOT
- C:::J** Sa.talFedereel Hiliit-y
- C:::J** T:DOT
- C:::J** City Street/County RoId
- C:::J** T:DOT

## 23. GALVESTON

Gulf of Mexico, Bolivar Roads and S Galveston Bay

CHART(S): Nautical Chart (11324 & 11326)

Upper Coast Atlas Page 41

STAGING AREA:

1. Galveston Yacht Basin (2) 29° 19'04"N 094°46'40"W
2. Erman Pilsner Boat Ramp (2) 29°22'07"N 094°45'06"W
3. Pleasure Island Boat Ramp (2) 29°17'19"N 094°52'26"W

ACCESS ROAD:

1. 1-45 south from Houston to Harbor Drive, turn left proceed to N. Holiday Dr., turn left and proceed to gate.
2. Bolivar Ferry Landing proceed east on Hwy 87 to 16<sup>th</sup> Street, turn right and proceed to end of road boat ramp.
3. 1-45 south from Houston to Teichman Rd., turn right and proceed to Blume Dr., turn right and proceed to end of road boat ramp.

### DISCRIPTION:

Swift currents (3+) in this area will require cascading diversion boom techniques to divert product away from sensitive areas, or to collection sites.

#### Bolivar Roads

23-A Boom entrance to The Lagoon (50' wide)

23-B Boom to protect marsh northeast of Fort Travis Seashore Park

23-C Boom entrance to Horseshoe Lake (100' wide)

#### Galveston Bay

23-D Boom to protect northeast shore of Pelican Island

23-E Boom to protect northwest shore of Pelican Island

23-F Boom to protect southwest shore of Pelican Island Spit

23-G Boom entrance to marsh on Pelican Island east of bridge (40' wide)

23-H Boom to protect USCG Group Galveston

23-I Boom to protect Offatts Bayou

23-J Boom marsh on east/west side of Snyder Bayou

### NOTIFY:

Texas Parks & Wildlife Dept.

(281) 461-4071 Houston

U.S. Fish & Wildlife Service

(281) 286-8282 Houston

### CAUTION:

Large swells may develop near deep draft vessel movement, extra caution is recommended while operating near the Texas City Dike and Pelican Island areas. Very shallow water near the shoreline of Pelican Island and Pelican Island Spit.

### NATURAL COLLECTION AREA:

Debris has been noted on the southwest beach of Bolivar Peninsula. The east shore of Pelican Island tends to collect large quantities of debris.

## Site Specific Information

Site# 23-A TGLO Polygon# 12 Quad Name Galveston

### Site information:

Site Description: boom entrance to the Lagoon.

Latitude:	N 29° 16'30"	Longitude:	W 094° 52'30"	Map#	41
NOAA chart#	11324,11326	County:	Galveston		
Nearest ICW Marker:	348	Date last visited:	February 7, 2005		

### Access:

Closest Boat Ramp:	Galveston Yacht Basin
Distance:	5 minutes
Boat type recommended:	V-hull
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

From MSU Galveston:

Same as 61<sup>st</sup> street boat ramp

U.S.C.G. via NRC	(800) 424-8802
TGLO via Hotline	(800) 832-8224
TCEQ	(512)463-7727

### Trustees/ Contact Numbers:

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Habitat for fish
Economic:	Recreational boating

### Booming strategy recommendation :

Recommendations:	Boom entrance to the Lagoon	
Number of personnel:	2-4	Width of inlet: ft
Current:	Medium	Water depth at mouth: ft

Safety / Cautionary notes:

---

## Site Specific Information

Site# 23-B TGLO Polygon# 10 QuadName Galveston



### Site information:

Site Description: Boom to protect marsh northeast of Ft. Travis Seashore Park. No marsh found. All beach VP to north jetty.

Latitude: N 29°22' 17" Longitude: W 094°45'12" Map# 41  
NOAA chart# 11324,11326 County: Galveston  
Nearest ICW Marker: 349 Date last visited: February 22, 2005

### Access:

Closest Boat Ramp: Pilsner Boat Ramp  
Distance: 41 minutes V-  
Boat type recommended: hull  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51 '37.46"W

### From MSU Galveston:

Cross Ferry. Take 87 east to 16th St. go right, go to beach make right and follow Fort Travis.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800)424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority: Medium  
Environmental: Habitat for turtles, fish, wading birds  
Economic: Along the Houston Ship Channel

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	ft
Current:	Medium	Water depth at mouth:	ft

### Safety /Cautionary notes:

## Site Specific Information

Site # 23-C    TGLO Polygon # 11    Quad Name: Galveston



### Site information:

Site Description: boom entrance to Horseshoe Lake.

Latitude:	N 29°22'30"	Longitude:	W 094°46'62"	Map#	41
NOAA chart#	11324,11326	County:	Galveston		
Nearest ICW Marker:	348	Date last visited:	February 22, 2005		
Access:					
Closest Boat Ramp:	Erman Picsner				
Distance:	40 minutes				
Boat type recommended:	V-hull				
Closest Airport:	Scholes Field Airport GLS				
Closest Helicopter Landing:	Scholes Field Airport, 29° 15'55.16"N				
	094°51 '37.46"W				

From MSU Galveston:

Cross Ferry and take 87 to first left onto Frenchtown Rd. Entrance is first small bridge.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Habitat for turtles
Economic:	Commercial-fishing boats

### Booming strategy recommendation :

Recommendations:	Boom entrance to Horseshoe Lake	
Number of personnel:	2-4	Width of inlet: ft
Current:	Medium	Water depth at mouth: ft

Safety /Cautionary notes:

---



## Site Specific Information

Site # 23-C-1

TGLO Polygon # 10

Quad Name: Galveston



### Site information:

Site Description: marsh surrounding Horseshoe Lake.

Latitude: N 29°22' 18"

Longitude: W094°46'50" Map#41

NOAA chart# 11324,11326

County: Galveston

Nearest ICW Marker: 348

Date last visited: February 22, 2005

Access:

Closest Boat Ramp:

Erman Pilsner

Distance:

40 minutes

Boat type recommended:

Shallow, flat bottom

Closest Airport:

Scholes Field Airport GLS

Closest Helicopter Landing:

Scholes Field Airport, 29° 15'55.16"N

094°51 '37.46"W

From MSU Galveston:

Cross Ferry. Take 87 east. Take 1st left onto Frenchtown Rd. Marsh is on the right.

### Trustees/ Contact Numbers:

U.S.C.G. via NRC

(800) 424-8802

TGLO via Hotline

(800) 832-8224

TCEQ

(512) 463-7727

### Resources at Risk:

Atlas Priority: Medium

Environmental: Habitat for turtles

Economic: Along the Houston Ship Channel

### Booming strategy recommendations:

Recommendations: Boom entrance to Horseshoe Lake and sensitive marshes.

Number of personnel:

2-4

Width of inlet:

ft

Current:

Slow

Water depth at mouth:

ft

### Safety /Cautionary notes:

---

## Site Specific Information

Site# 23-C-2

TGLO Polygon# 11

Quad Name: Galveston



Site information:

Site Description: Horseshoe Lake area.

Latitude: N 29°22'3"

Longitude: W 094°46'4" Map# 41

NOAA chart# 11324,11326

County: Galveston

Nearest ICW Marker: 348

Date last visited: February 22, 2005

Access:

Closest Boat Ramp:

Erman Pilsner

Distance:

40 minutes

Boat type recommended:

Shallow, flat bottom

Closest Airport:

Scholes Field Airport GLS

Closest Helicopter Landing:

Scholes Field Airport, 29°15'55.16"N

094°51 '37.46"W

From MSU Galveston:

Cross Ferry. Take 87 east take 1st left onto Frenchtown Rd. Lake on right.

### Trustees/ Contact Numbers:

U.S.C.G. via NRC

(800) 424-8802

TGLO via Hotline

(800) 832-8224

TCEQ

(512) 463-7727

### Resources at Risk:

Atlas Priority: Medium

Environmental: Turtles

Economic: Along the Houston Ship Channel

### Booming strategy recommendations:

Recommendations: Boom to protect sensitive marshes.

Number of personnel:

2-4

Width of inlet:

ft

Current:

Slow

Water depth at mouth:

ft

Safety / Cautionary notes:

---



## Site Specific Information

Site# 23-D TGLO Polygon# 7

Quad Name: Galveston



### Site information:

Site Description: northeastern shore of Pelican Island.

Latitude: N 29°21 '112"

Longitude: W 094°48'59" Map# 41

NOAA chart# 11324,11326

County: Galveston

Nearest ICW Marker: 352

Date last visited: February 7, 2005

### Access:

Closest Boat Ramp:

Texas City Dike Marina

Distance:

10 minutes

Boat type recommended:

V-Hull

Closest Airport:

Scholes Field Airport GLS

Closest Helicopter Landing:

Scholes Field Airport, 29° 15'55.16"N

094°51 '37.46"W

From MSU Galveston:

Take Harborside to 51<sup>st</sup> St. Turn right across the Pelican Island bridge. Various dirt roads lead to north side of island.

### Trustees/ Contact Numbers:

U.S.C.G. via NRC

(800)424-8802

TGLO via Hotline

(800) 832-8224

TCEQ

(512) 463-7727

### Resources at Risk:

Atlas Priority: High

Environmental: Wetlands; nursery; rookery

economic: Along the Houston Ship Channel

### Booming strategy recommendation:

Recommendations: Boom to protect sensitive marshes.

Number of personnel:

2-4

Width of inlet:

ft

Current:

High

Water depth at mouth:

ft

### Safety / Cautionary notes:

Large swells may develop near deep draft vessel

movement, extra caution is recommended while operating near Pelican Island areas.

## Site Specific Information

Site# 23-D-1

TGLO Polygon# 6

Quad Name: Galveston



### Site information:

Site Description: Pelican Island spit north of GJWW.

Latitude:	N 29°20'05"	Longitude:	W 094°47'80"	Map#	41
NOAA chart#	11324,11326	County:	Galveston		
Nearest ICW Marker:	352	Date last visited:	February 7, 2005		

### Access:

Closest Boat Ramp:	Texas City Dike Marina
Distance:	10 minutes
Boat type recommended:	V-Hull
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

### From MSU Galveston:

Take Harborside to 51st St. Turn right across the Pelican Island bridge. Various dirt roads lead to north side of island.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	large rookery area
Economic:	Along the Houston Ship Channel

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes.	
Number of personnel:	2-4	Width of inlet: ft
Current:	High	Water depth at mouth: ft

Safety / Cautionary notes: Large swells may develop near deep draft vessel movement, extra caution is recommended while operating near Pelican Island areas. Very shallow water near the shoreline of Pelican Island and Pelican Island Spit.

## Site Specific Information

Site # 23-D-2

TGLO Polygon # 9

Quad Name: Galveston



### Site information:

Site Description: Eastern Shore of Pelican Island.

Latitude:	N 29°20'40"	Longitude:	W 094°47'51"	Map #	41
NOAA chart#	11324,11326	County:	Galveston		
Nearest ICW Marker:	352	Date last visited:	February 7, 2005		

### Access:

Closest Boat Ramp:	Texas City Dike Marina
Distance:	10 minutes
Boat type recommended:	V-Hull
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29° 15'55.16"N 094°51 '37.46"W

### From MSU Galveston:

Take Harborside to 51st St. Turn right across the Pelican Island bridge. Various dirt roads lead to north side of island.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800)424-8802
	TGLO via Hotline	(800)832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Fishing area; nursery; rookery
Economic:	Along the Houston Ship Channel

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes.	
Number of personnel:	2-4	Width of inlet: ft
Current:	High	Water depth at mouth: ft

Safety / Cautionary notes: Large swells may develop near deep draft vessel movement, extra caution is recommended while operating near the Texas City Dike and Pelican Island areas. Very shallow water near the shoreline of Pelican Island and Pelican Island Spit.

## Site Specific Information

Site# 23-E    Polygon# 8    Quad Name: Galveston



### Site information:

Site Description: off north shore of Pelican Island.

Latitude: N 29°20'90"    Longitude: W 094°48'87"    Map# 41  
NOAA chart# 11324, I 1326    County: Galveston  
Nearest ICW Marker: 352    Date last visited: February 7, 2005

### Access:

Closest Boat Ramp: Texas City Dike Marina  
Distance: 10 minutes  
Boat type recommended: V-Hull  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51'37.46"W

### From MSU Galveston:

Take Harborside to 51st St. Turn right across the Pelican Island bridge. Various dirt roads lead to north side of island.

Trustees/ Contact Numbers:    U.S.C.G. via NRC    (800)424-8802  
   TGLO via Hotline    (800) 832-8224  
   TCEQ    (512) 463-7727

### Resources at Risk:

Atlas Priority: Medium  
Environmental: Fishing area; nursery; rookery  
Economic: Along the Houston Ship Channel

### Booming strategy recommendations:

**Recommendations:** Boom to protect sensitive marshes.  
**Number of personnel:** 2-4    Width of inlet: ft  
**Current:** High    Water depth at mouth: ft

Safety / Cautionary notes: Large swells may develop near deep draft vessel movement, extra caution is recommended while operating near Pelican Island areas. Very shallow water near the shoreline of Pelican Island and Pelican Island Spit.

## Site Specific Information

Site# 23-F TGLO Polygon # I Quad Name: Galveston



### Site information:

Site Description: Pelican Island spit north of GIWW.

Latitude: N 29°21'2" Longitude: W 094°49'0" Map# 41  
NOAA chart# 11324,11326 County: Galveston  
Nearest ICW Marker: 352 Date last visited: February 7, 2005

### Access:

Closest Boat Ramp: Texas City Dike Marina  
Distance: 10 minutes  
Boat type recommended: V-Hull  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51'37.46"W

From MSU Galveston:  
No land access

Trustees/ Contact Numbers:  
U.S.C.G. via NRC (800)424-8802  
TGLO via Hotline (800) 832-8224  
TCEQ (512)463-7727

### Resources at Risk:

Atlas Priority: Medium  
Environmental: Nursery and fishing, rookery, and smooth cordgrass.  
Economic: Along the Houston Ship Channel

### Booming strategy recommendations:

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 2-4 Width of inlet: ft  
Current: High Water depth at mouth: ft

Safety / Cautionary notes: Large swells may develop near deep draft vessel movement, extra caution is recommended while operating near the Texas City Dike and Pelican Island areas. Very shallow water near the shoreline of Pelican Island and Pelican Island Spit.

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## Site Specific Information

Site # 23-G TGLO Polygon # 8

Quad Name: Galveston



### Site information:

Site Description: boom entrance to marsh on Pelican Island east of bridge (40' wide).

Latitude: N 29° 18'79".

Longitude: W 094°49'22" Map# 41

NOAA chart# 11324,11326

County: Galveston

Nearest ICW Marker: 352

Date last visited: February 7, 2005

### Access:

Closest Boat Ramp:

TAMU oil spill control school

Distance:

2 minutes

Boat type recommended:

Y-hull

Closest Airport:

Scholes Field Airport GLS

Closest Helicopter Landing:

Scholes Field Airport, 29° 15'55.16"N

094° 51 '37.46"W

From MSU Galveston:

From MSU, take Harborside to 51st turn right. Just past the bridge turn right into TAMU.

Follow road to right. Marsh on right

### Trustees/ Contact Numbers:

U.S.C.G. via NRC

(800) 424-8802

TGLO via Hotline

(800) 832-8224

TCEQ

(512) 463-7727

### Resources at Risk:

Atlas Priority: Medium

Environmental: Habitat for wading birds, gulls, terns, diving birds, upland/wetland plants

Economic: Along the Houston Ship Channel

### Booming strategy recommendations:

#### **Recommendations:**

Boom to protect sensitive marshes.

#### **Number of personnel:**

2-4

Width of inlet:

ft

#### **Current:**

High

Water depth at mouth:

ft

### Safety / Cautionary notes:

Large swells may develop near deep draft vessel movement, extra caution is recommended while operating near the Texas City Dike and Pelican Island areas. Very shallow water near the shoreline of Pelican Island and Pelican Island Spit.

## Site Specific Information

Site # 23-H TGLO Polygon # 9\_\_ Quad Name: Galveston



### Site information:

Site Description: Coast Guard Group Galveston.

Latitude:	N 29°20'40"	Longitude:	W 094°47'51"	Map #	41
NOAA chart#	11324,11326	County:	Galveston		
Nearest ICW Marker:	352	Date last visited:	February 7, 2005		

### Access:

Closest Boat Ramp:	Galveston Yacht Basin
Distance:	10 minutes
Boat type recommended:	V-Hull
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W
From MSU Galveston:	
If you need directions, something is wrong.	

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Fishing area; nursery; rookery
Economic:	Along the Houston Ship Channel

### Booming strategy recommendation :

Recommendations:	Boom to protect Coast Guard assets.		
Number of personnel:	2-4	Width of inlet:	500ft
Current:	High	Water depth at mouth:	15ft

Safety / Cautionary notes: Large swells may develop near deep draft vessel movement, extra caution is recommended while operating near the Coast Guard station as well as identifying yours self by calling the Group Galveston OOD. at (409) 766-5620.



## Site Specific Information

Site# 23-1    TGLO Polygon# 13    Quad Name: Galveston



### Site information:

Site Description: 61<sup>st</sup> street boat ramp, Offatts Bayou.

Latitude:    N 29° 16'99"    Longitude:    W 094°50' 18" Map # 41  
NOAA chart#    11324, 11326    County:    Galveston  
Nearest ICW Marker:    358    Date last visited:    4 March 2003

### Access:

Closest Boat Ramp:    61<sup>st</sup> street boat ramp  
Distance:    5 minutes  
Boat type recommended:    Any  
Closest Airport:    Scholes Field Airport GLS  
Closest Helicopter Landing:    Scholes Field Airport, 29° 15'55.16"N  
094°51 '37.46"W

### From MSU Galveston:

Go Broadway north and exit 61<sup>st</sup>, then go left. The boat ramp is half mile on right.

Trustees/ Contact Numbers:    U.S.C.G. via NRC    (800) 424-8802  
    TGLO via Hotline    (800) 832-8224  
    TCEQ    (512)463-7727

### Resources at Risk:

Atlas Priority:    Low  
Environmental :    Habitat for dolphins, waterfowl, diving birds, fish, shrimp  
Economic:    Recreational boating

### Booming strategy recommendation :

Recommendations:    Boom entrance to Offatts Bayou.  
Number of personnel:    2-4    Width of inlet:    ft  
Current:    Minimal    Water depth at mouth:    ft

Safety / Cautionary notes:

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## Site Specific Information

Site # 23-J TGLO Polygon # 15 Quad Name: Galveston



### Site information:

Site Description: East shore of Sydnor Bayou, wetlands on east and west shore.

Latitude: N 29° 15' 45" Longitude: W 094° 51' 92" Map # 41  
NOAA chart# 11324, 11326 County: Galveston  
Nearest ICW Marker: 357 Date last visited: February 7, 2005

### Access:

Closest Boat Ramp: Turtle Lake Apartments  
Distance: 15 minutes  
Boat type recommended: Flat bottom  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29° 15' 55.16"N  
094° 51' 37.46"W

### From MSU Galveston:

West on Seawall Blvd. Right on 89th. Left on Stewart. Right on 99th. Right on Schaper.  
Left on Sydnor.

Trustees/ Contact Numbers: U.S.C.G. via NRC (800) 424-8802  
TGLO via Hotline (800) 832-8224  
TCEQ (512) 463-7727

### Resources at Risk:

Atlas Priority: Medium  
Environmental: N/A  
Economic: Near Scholes Field Airport

### Booming strategy recommendations:

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 2-4 Width of inlet: ft  
Current: Minimal Water depth at mouth: ft

Safety / Cautionary notes:

---

## Site Specific Information

ite # 23-K TGLO Polygon # 3

Quad Name Galveston



### Site information:

Site Description: Bolivar ferry

Latitude:	N 28°28'4"	Longitude:	W 094°45'0"	Map#	39
NOAA chart#	11324,11326,11331	County:	Galveston		
Nearest ICW Marker:	348	Date last visited:	April27, 2005		

### Access:

Closest Boat Ramp:	Shirley's bait camp
Distance:	10 minutes
Boat type recommended:	V-Hull
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Baffle Point

From MSU Galveston:  
Launch boat from GYB head northeast.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800)424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority:	Caution
Environmental:	Wildlife
Economic:	N/A

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes.		
<u>Number of personnel:</u>	<u>2-4</u>	<u>Width of inlet:</u>	<u>ft</u>
Current:	Medium	Water depth at mouth:	

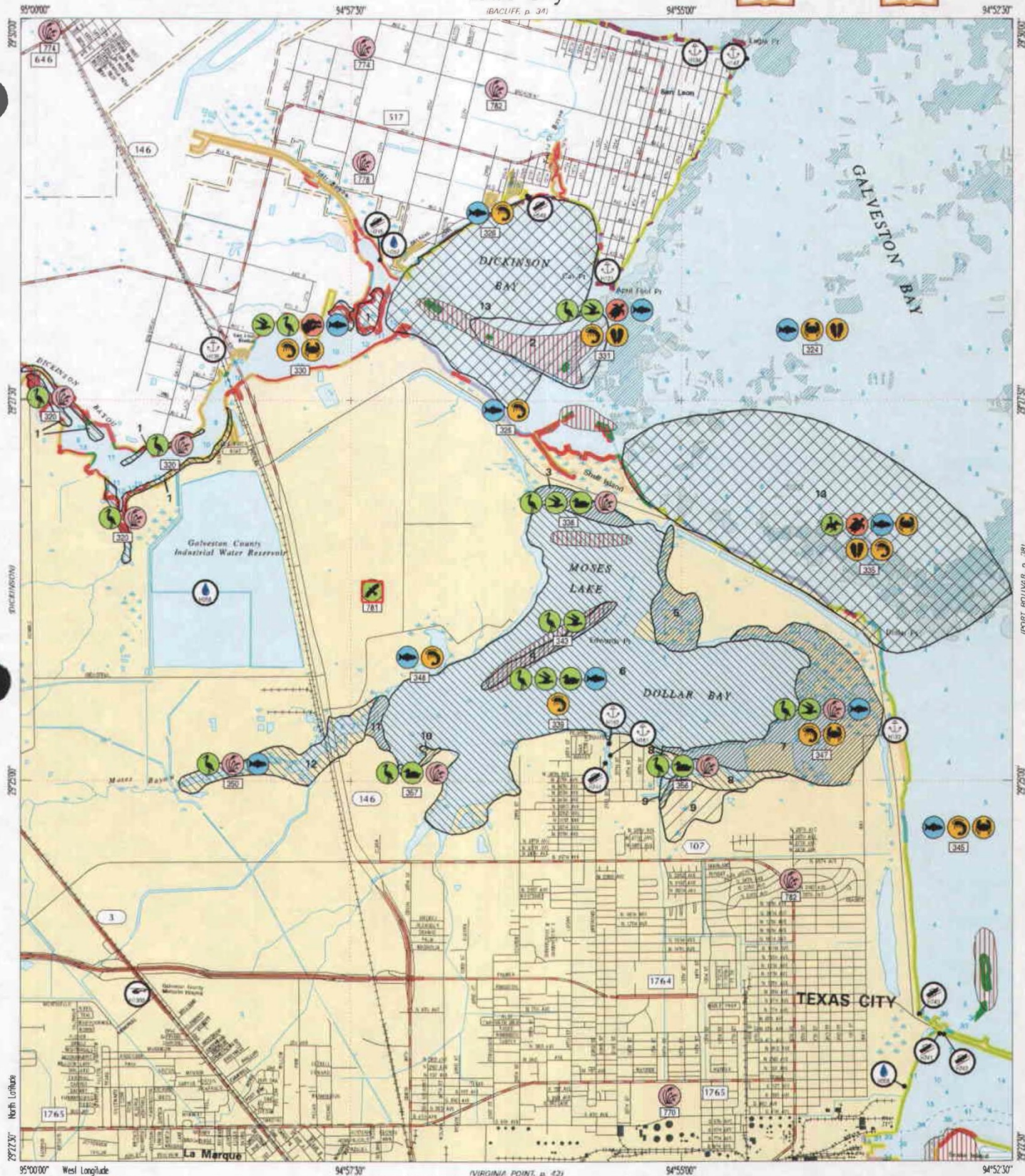
Safety / Cautionary notes:



# Texas City

DATA

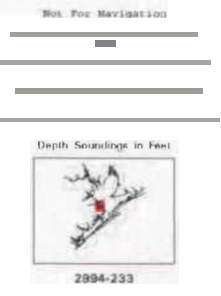
ACP



TEXAS  
OIL SPILL  
PREVENTION & RESPONSE



Hazardous Materials Response and Assessment Division



## HUMAN-USE FEATURES

Soot..... Solo  
Hilpon  
Mol.,  
W.... IntM\* Polnt  
PRIOATV PROTECTION AAEA  
HQB P1011y  
MClLImPrta.fcl  
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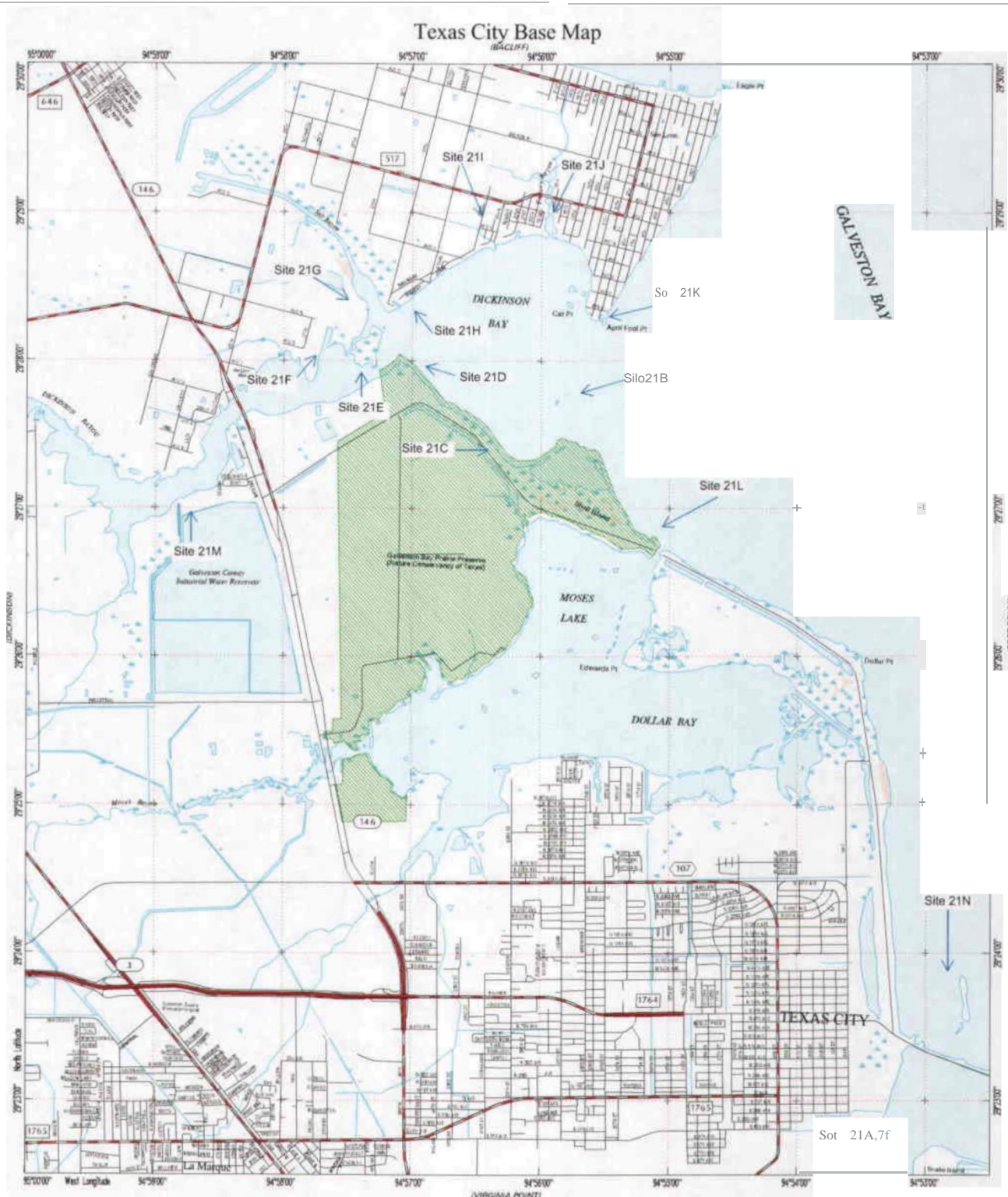
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Munietp11 Aleo  
Marsh, Wet1nd  
Tidal/Mud Flat  
Inundated Area  
[2]] B1rd Rookery Area  
Oyster Roe.l  
Oyster Shell on Mud





[View Texas City Response Map](#)

Map Legend  
**CJ** L.ire.Bav.AL...  
 M.dth.W.rkind.SW\*....  
**CJ** Flatt!Mud..lmltd.TKS.II  
**D**.....

Dilid lnd Hlgrw\*  
 Tl00T  
 S46C/F.der..H!P\*v  
 RDOT  
 City Street/County Road  
 11-00T

[View all Texas City Site Specific Plans](#)

# TEXAS CITY

Ma #39

## HUMAN USE RESOURCES

### Boat Ramps

H740	Marge's Bait Camp
H741	50/50 Camp
H742	Rilats and Gastians
H744	Curl's
H745	The Fish Spot
	Dickinson's Bayou Public

### Heliports

H1300	G. P. Larsen	(409)	93B-5000
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### Marinas

BARNUM	NAME		
H121	Capt. Wally's Marina at April Fool Pt	815 Av O San Leon	(713) 339-1232
H133	Dollar Point	4220 Bay St Extension Texas City	(409) 945-4686
H134	San Leon Marina (Admiralty Trust)	105 6th St. San Leon 77539	(713) 339-1515
H136		Rt 3 Box 375 Dickinson 77539-9801	(713) 339-1194
H147	Eagle Point Camp	101 1st San Leon 77539	(713) 339-1131
H161	Moses Lake Marina	4009 20th St. N Texas City	(409) 943-4444
H162	Ray's Marina	4025 20th St N Texas City 77550	(409) 945-0989

### Water Intake Points

H056	Sterling Chemicals Inc.	6
H057	Houston L&P-Robinson Plant	6
H058		

## BIOLOGICAL RESOURCES

### Birds

BARNUM		M	J	J	A	S	O	N	D	NESTING	LAYING		FLDGING
320	Wading birds	X	X	X	X	X	X	X	X	X	X		
	Rails	X	X	X	X	X	X	X	X	X	X		
330	Terns	X	X	X	X	X	X	X	X	X	X		
	Rails	X	X	X	X	X	X	X	X	X	X		
	Black skimmer	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Wading birds	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
331	Wading birds	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Black skimmer	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Terns	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
335	Olivaceous cormorant	X	X	X	X	X	X	X	X	X	X	JAN-JUL	JAN-JUL
338	Wading birds	X	X	X	X	X	X	X	X	X	X	JAN-JUL	FEB-AUG
	Terns	X	X	X	X	X	X	X	X	X	X	JAN-JUL	FEB-AUG
	Black skimmer	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Rails	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Waterfowl	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
339	Wading birds	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Terns	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Black skimmer	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Waterfowl	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
343	Wading birds	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Black skimmer	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Terns	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
347	Wading birds	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Rails	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Terns	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Black skimmer	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
350	Wading birds	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Rails	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
356	Wading birds	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Rails	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Waterfowl	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
357	Wading birds	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Waterfowl	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
	Rails	X	X	X	X	X	X	X	X	X	X	APR-SEP	APR-SEP
781	Attwater's greater prairie-chicken	S/F	E/E										

### Reptiles/Amphibians

#### S/E T/E CONCEN J F M A M J J A S O N D NESTING

Diamondback terrapin  
Diamondback terrapin

JUN-DEC  
MAY-JUL  
MAY-JUL

American alligator

# TEXAS CITY CONTINUED

Fish	NUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	LARVAL / JUV	
	324	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
		Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT	
		Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	326	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT	
		Southern flounder				X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC	
		Sand seatrout				X	X	X	X	X	X	X	X	X	X	X	-	MAR-DEC	
		Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
		Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
		Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	330	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-	DEC-MAR
		FEB Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-	SEP-DEC
		NOV																JAN-DEC	JAN-DEC
		Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
		Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	MAR-DEC
	331	Sheepshead minnow				X	X	X	X	X	X	X	X	X	X	X	X	MAR-OCT	APR-SEP
		Gulf killifish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	DEC-MAR
		Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	JUN-OCT
		Hardhead catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	SEP-DEC
		Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	JUN-OCT
	335	Hardhead catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-	APR-OCT
		SEP Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
		Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-MAY
		Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	JUN-OCT
	339	Hardhead catfish				X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	APR-OCT
		Atlantic croaker			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	
		Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	JAN-DEC
		Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JUL-MAR
		Black drum				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	MAR-DEC
		Sheepshead minnow				X	X	X	X	X	X	X	X	X	X	X	X	MAR-OCT	OCT-DEC
		Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	SEP-DEC
		Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	APR-OCT
	345	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-DEC
		Sand seatrout				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
		Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-MAY
		Pinfish									X	X	X	X				MAR-MAY	
		Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
		Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	347	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
		Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
		Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
		Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
	348	Atlantic croaker				X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
		Spotted seatrout				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	350	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-DEC
Shellfish																			
																		SPAWNING	LARVAL / JUV
																		MAR-JUL	APR-JUL
	324	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
		Blue crab			HIGH	X	X	X	X	X	X	X	X	X	X	X	X		
		Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	330	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
		Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	331	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
		Brackishwater clam				X	X	X	X	X	X	X	X	X	X	X	X	-	
		White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
		Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
		Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	335	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
		Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
		Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
		White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
	339	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	345	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
		Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
		Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	347	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
		Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	348	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
		Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN

# TEXAS CITY CONTINUED

## BIOLOGICAL RESOURCES CONT.

### Plants/Communities

RARNUM	NAME	S/F	T/E
320	Smooth cordgrass		
338	Salt meadow cordgrass (wiregrass)		
	Smooth cordgrass		
	Rushes		
347	Salt meadow cordgrass (wiregrass)		
	Smooth cordgrass		
	Rushes		
350	Smooth cordgrass		
356	Smooth cordgrass		
	Rushes		
	Salt meadow cordgrass (wiregrass)		
357	Smooth cordgrass		
770	Smooth blue-star	F	3C
774	Texas windmill-grass	F	C2
778	Houston machaeranthera	F	C2
782	Coastal gay-feather		

# TEXAS CITY

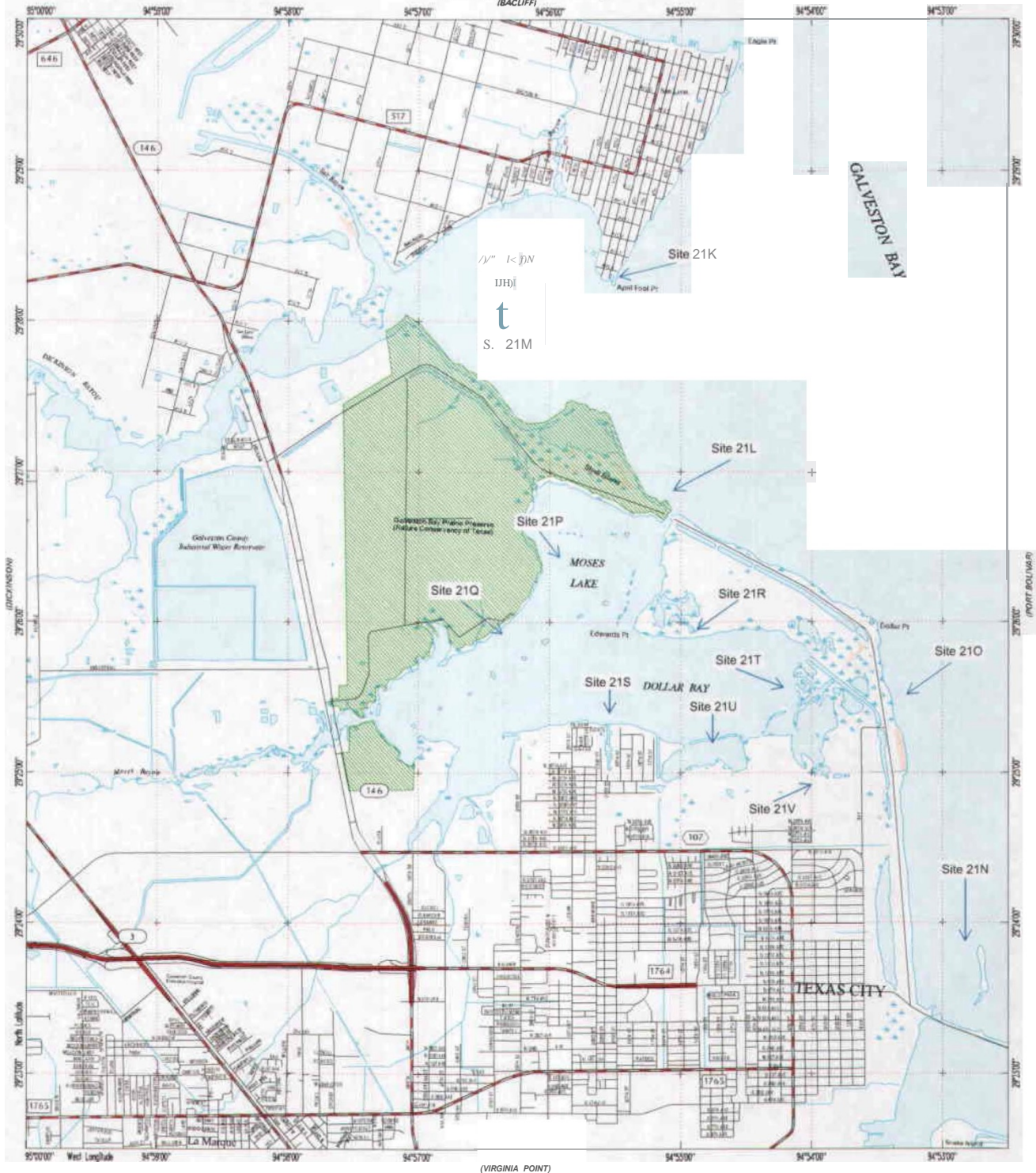
Map# 39

Polygon #	Priority	Description : what organism(s), habitat(s)?
<i>Pinchpoint where Highway 146 crosses Dickinson Bayou can be boomed to protect polygons 1 from spills in Galveston Bay or Dickinson Bay.</i>		
1	Medium	Shores of Dickinson Bayou (a-f). Nursery (high), wetlands (high). Several fringe marshes, can be protected separately.
2	Low	<u>Note:</u> diamondback terrapin habitat in area where Highway 146 crosses Dickinson Bayou. Mouth of Dickinson Bay. Nursery (medium). seasonal rookery (medium); extensive oysters. <u>Note:</u> diamondback terrapin habitat in Dickinson Bay and in Galveston Bay between Miller Point and Dollar Point. Colonial waterbird nesting (such as in polygon 2) February - August.
<i>Moses Lake floodgate can be closed to restrict flow in or out of Moses Lake and Dollar Bay. Can be closed to protect polygons 3-12 from spills in Galveston Bay.</i>		
3	High	Moses lake shoreline at Shell Island. Bird habitat (high). nursery (high), wetlands (high).
4	High	Islands In Moses lake. Bird habitat (high), nursery (high), oyster reef (low).
5	High	Edwards Point area. Bird habitat (high), nursery (high), wetlands (high).
6	Medium	Moses lake and Dollar Bay. Nursery (high), bird habitat (medium).
7	High	East of Dollar Bay. Bird habitat (high), nursery (high), wetlands (high).
8	Medium	Southern shore of Dollar Bay (a, b). Wetlands (high), bird habitat (medium).
9	Low	South of Dollar Bay. Wetlands (high).
10	High	Upper Moses lake. Nursery (high), wetlands (high), bird habitat (medium).
<i>Pinchpoint at mouth of Moses Bayou can be boomed to protect polygons 11 and 12 from spills from Moses Lake-Dollar Bay.</i>		
11	High	Mouth of Moses Bayou. Nursery (high), wetlands (high). bird habitat (medium).
12	Medium	Moses Bayou. Nursery (high), wetlands (high).
13	High	Dickinson Bay, mouth of Moses Lake. Diamondback terrapin.



# Texas City Base Map

(BACUFF)



1/4" = 1/2 M  
 DHD  
 t  
 S. 21M

GALVESTON BAY

## Map Legend

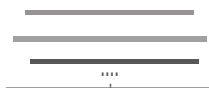
[=:] a..te. Bay, Altr  
 Mlnh, Wet..nd, SwImp  
 C::= AIU(Mud, Sind, Tidill  
 In Are.  
 Conrv.tionAIU  
 DMdedHy  
 T..DOT  
 SUIBfederal Highway  
 &.DOT  
 City Street/Coul'ly AofH  
 li<DOT

[View Texas City Response Map](#)

[View all Texas City Site Specific Plans](#)



2984-233



## 21. TEXAS CITY

Texas City Ship Channel, W Galveston Bay and Dickinson Bay

CHART(S): Nautical Chart (11324 & 11326)

Upper Coast Atlas Page 39

STAGING AREA : 1. Dickinson Bridge public boat ramp on the north side of the Dickinson Bridge on Hwy 146 (under the bridge).

ACCESS ROAD: 1. East on Hwy 225 from Houston to Hwy 146. Turn right on Hwy 146, proceed south to the Dickinson Bridge. Exit onto the feeder before the bridge and proceed under the bridge to the public boat ramp.

### DESCRIPTION:

- 21-A Texas City Ship Channel
- 21-B Boom two cuts leading to Shell Island Bird Rookery Southwest of marker "17"(620'wide)
- 21-C Boom cut to marsh area West End of Shell Island (162'wide)
- 21-D Boom to protect marsh area south of marker "27"
- 21-E Boom to protect Marsh Island north of marker "31"
- 21-F Boom cut to marsh area at 29-28-05N 094-57-31 W (138' wide)
- 21-G Boom entrance to Salt Bayou leading to HL&P (810'wide)
- 21-H Boom Fishing Boat harbor at 29-28-46N 094-56-22W (200'wide)
- 21-I Boom Fishing Boat harbor at 29-28-53N 094-56-12W (100'wide).
- 21-J Boom entrance to Factory Bayou (530' wide).
- 21-K Boom to protect Marina at April Fool Point
- 21-L Close Tide Gate to Moses Lake.
- 21-M Dickinson Bayou
- 21-N Texas City Dike Area
- 21-O Boom wetlands south of Dollar Bay
- 21-P Boom shorelines of Moses Lake and Shell Island
- 21-Q Boom islands in Moses Lake
- 21-R Boom Edwards Point Area
- 21-S Boom Rays Marina and surrounding wetlands
- 21-T Boom east of Dollar Bay
- 21-U Boom southern shore of Dollar Bay
- 21-V Boom wetlands south of Dollar Bay

### NOTIFY:

HL&P to boom off the water intake at Dickinson Bay (281) 316-4340.

Moses Lake Tide Gate Manager (409) 948-4231 or (409) 948-3408 Pager# (409) 943-0286

Nature Conservancy at (409) 945-4677

Texas Parks & Wildlife Dept. (281) 461-4071 Houston

U.S. Fish & Wildlife Service (281) 286-8282 Houston

### NATURAL COLLECTION AREA:

Oil would probably tend to pool along the West Side of Dickinson Bay near the Dickinson Bayou entrance.

## Site Specific Information

Site# 21-K. TGL Polygon# 2

Quad Name Texas City



### Site information:

Site Description: Mouth of Dickinson Bay. Area is in open water

Latitude:	N 29°27'68"	Longitude:	W 094°56'77"	Map#	39
NOAA chart#	11324, 11326	County:	Galveston		
Nearest ICW Marker:	N/A	Date last visited:	February 18, 2005		

### Access:

Closest Boat Ramp:	Under 146 bridge
Distance:	5 minutes
Boat type recommended:	Any
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N

094°51 '37.46"W

From MSU Galveston: Only accessible by water.

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Low
Environmental:	N/A
Economic:	N/A

### Booming trat gy recommendations:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	4-6_	Width of inlet:	N/Aft
Current:	Medium	Water depth at mouth:	N/Aft

Safety / Cautionary notes:

## Site Specific Information

Site#21-L-3

TGLOPolygon# 10

Quad Name Texas City



### Site information:

Site Description: Upper Moses Lake.

Latitude: N 29°24' 17"

Longitude: W 094°57'32" Map# 39

NOAA chart# 11324, 11326

County: Galveston

Nearest ICW Marker: N/A

Date last visited: February 18, 2005

### Access:

Closest Boat Ramp: "The Fish Spot" TX City

Distance: 20 minutes

Boat type recommended: Shallow water draft

Closest Airport: Scholes Field Airport GLS

Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51 '37.46"W

### From MSU Galveston:

Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take road to the right before the San Leon/ Dickinson Bayou bridge.

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority: High

Environmental: Wetlands, Nursery, and Bird Habitat

Economic: N/A

### Booming strategy r commendations :

Recommendations: Boom to protect sensitive marshes

Number of personnel: 2-4 Width of inlet: N/Aft

Current: Slow Water depth at mouth: N/A ft

Safety / Cautionary notes:

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## Site Specific Information

Site# 21-L-1

TGLO Polygon # 12

Quad Name Texas City



Site information:

Site Description: Moses Bayou.

Latitude: N 29°24' 16"  
NOAA chart# 11324, 11326  
Nearest ICW Marker: N/A

Longitude: W 094°57'42" Map# 39  
County: Galveston  
Date last visited: February 18, 2005

Access:

Closest Boat Ramp: "The Fish Spot" TX City  
Distance: 20 minutes  
Boat type recommended: Shallow water draft  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51 '37.46"W

From MSU Galveston:

Take 45N. Take HWY 146/HWY 3 exit to the right. Take HWY 146N to the bridge.

Trustees/ Contact Numbers:

U.S.C.G. via NRC	(800) 424-8802
TGLO via Hotline	(800) 832-8224
TCEQ	(512)463-7727

Resources at Risk:

Atlas Priority:	Medium
Environmental:	Wetlands
Economic:	N/A

Booming strategy recommendations :

Recommendations:

Boom to protect sensitive marshes			
Number of personnel:	2-4	Width of inlet:	N/A ft
Current:	Slow	Water depth at mouth:	N/Aft

Safety /Cautionary notes:

## Site Specific Information

Site# 21-L-2

TGLO Polygon# 11

Quad Name Texas City



### Site information:

Site Description: Mouth of Moses Bayou. On the Texas Prairie Preserve.

Latitude: N 29°26'53"

Longitude: W 094°56'05" Map# 39

NOAA chart# 11324, 11326

County: Galveston

Nearest ICW Marker: N/A

Date last visited: February 18, 2005

### Access:

Closest Boat Ramp: "The Fish Spot" TX City

Distance: 20 minutes

Boat type recommended: Shallow water draft

Closest Airport: Scholes Field Airport GLS

Closest Helicopter Landing: Scholes Field Airport, 29° 15'55.16"N  
094°51 '37.46"W

### From MSU Galveston:

Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take road to the right before the San Leon/ Dickinson Bayou bridge.

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority: High

Environmental: Habitat for birds

Economic: N/A

### Booming strategy recommendation :

Recommendations: Boom to protect sensitive marshes

Number of personnel: 2 4 Width of inlet: N/A ft

Current: Slow Water depth at mouth: N/A ft

Safety / Cautionary notes: Very strong currents around flood gate.

---

## Site Specific Information

Site# 21-L-4

TGLO Polygon# 13

Quad Name Texas City



### Site information:

Site Description: Dickinson Bay, mouth of Moses Lake.

Latitude:	N 29°25'94"	Longitude:	W 094°53'57"	Map#	39
NOAA chart#	11324, 11326	County:	Galveston		
Nearest ICW Marker:	N/A	Date last visited:	February 18, 2005		

### Access:

Closest Boat Ramp:	Marge's Bait Camp, San Leon
Distance:	20 minutes
Boat type recommended:	Shallow water draft
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

From MSU Galveston: Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take Loop 197 to the right Right on 9th Ave N. Left on Skyline Road.

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	High
Environmental:	Habitat for birds
Economic:	N/A

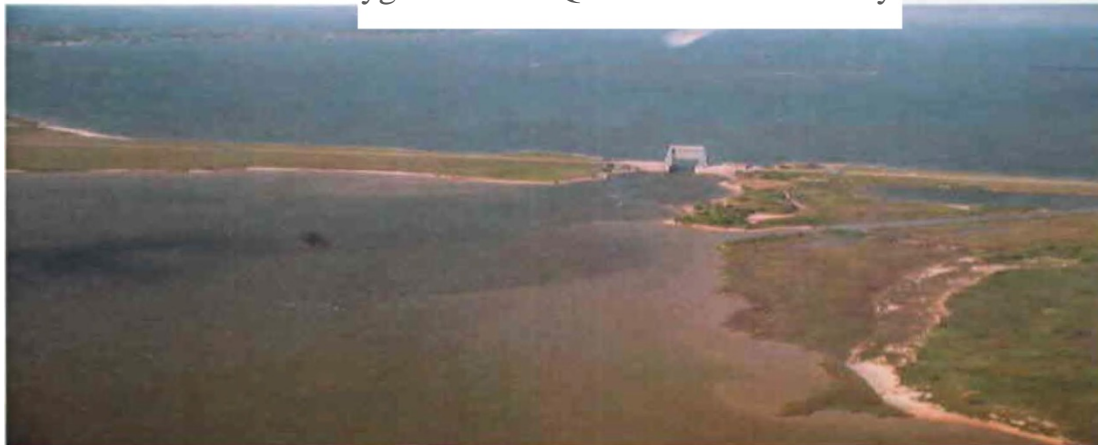
### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/A ft
Curr nt:	Slow	Water depth at mouth:	N/A ft

Safety / Cautionary notes: Very strong currents around floodgate.

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Site# 21-L TGLO Polygon# 13 Quad Name Texas City



Site information:

Site Description: ACOE Lock, mouth of Moses Lake.

Latitude:	N 29°25'94"	Longitude:	W 094°53'57"	Map#	39
NOAA chart#	11324, 11326	County:	Galveston		
Nearest ICW Marker:	N/A	Date last visited:	February 18, 2005		

Access:

Closest Boat Ramp:	Marge's Bait Camp, San Leon
Distance:	20 minutes
Boat type recommended:	Shallow water draft
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29° 15'55.16"N 094°51 '37.46"W

From MSU Galveston:

Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take road to the right before the San Leon/ Dickinson Bayou bridge.

Trustees/ Contact Numbers:	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

Resources at Risk:

Atlas Priority:	High
Environmental:	Habitat for birds
Economic:	N/A

Booming trat gy r commendati n :

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/Aft
Current:	Slow	Water depth at mouth:	N/Aft

Safety / Cautionary notes: Very strong currents around floodgate.



## Site Specific Information

Site# 21-M TGLO Polygon# 13 Quad Name Texas City



### Site information:

Site Description: Dickinson Bay,

Latitude: N 29°25'94"  
NOAA chart# 11324, 11326  
Nearest ICW Marker: N/A

Longitude: W 094°53'57" Map# 39  
County: Galveston  
Date last visited: February 18, 2005

### Access:

Closest Boat Ramp:	Marge's Bait Camp, San Leon
Distance:	20 minutes
Boat type recommended:	Shallow water draft
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51'37.46"W

From MSU Galveston:

Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N to the San Leon/  
Dickinson Bayou bridge.

### Trustees/ Contact Numbers:

U.S.C.G. via NRC	(800) 424-8802
TGLO via Hotline	(800) 832-8224
TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	High
Environmental:	Habitat for birds
Economic:	N/A

### Boating strategy recommendations:

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/Aft
Current:	Slow	Water depth at mouth:	N/A ft

Safety /Cautionary notes: Very strong currents around floodgate.

## Site Specific Information

Site# 21-N TGLO Polygon# 13 Quad Name Texas City \_\_\_\_\_



### Site information:

Site Description: Texas City Dike Area.

Latitude:	N 29°25'09"	Longitude:	W 094°55'57"	Map#	39
NOAA chart#	11324, 11326	County:	Galveston		
Nearest ICW Marker:	N/A	Date last visited:	February 18, 2005		

### Access:

Closest Boat Ramp:	Texas City Dike Bait Camp
Distance:	20 minutes
Boat type recommended:	Shallow water draft
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

From MSU Galveston: Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take Loop 197 to the right Right on 8th Ave N.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	High
Environmental:	Habitat for birds
con mi:	N/A

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/Aft
Current:	Slow	Water depth at mouth:	N/Aft

Safety /Cautionary notes: Very strong currents around floodgate.

## Site Specific Information

Site# 21-0    TGLO Polygon# 8    Quad Name Texas City



### Site information:

Site Description: South of Dollar Bay, wetlands.

Latitude:	N 29°26'25"	Longitude:	W 094°58'55"	Map#	39
NOAA chart #	11324, 11326	County:	Galveston		
Nearest ICW Marker:	N/A	Date last visited:	February 18, 2005		

### Access:

Closest Boat Ramp:	Under Hwy 146 Bridge
Distance:	2 minutes
Boat type recommended:	Shallow water draft
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	'Scholes Field Airport, 29°15'55.16"N 094°51 '37.46"W

From MSU Galveston:

Take 45N. Take HWY 146/HWY 3 exit to the right. Take HWY 146N to the bridge.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Wetlands, Habitat for wading birds, gulls, terns, waterfowl, fish, upland/wetland plants
Economic:	N/A

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes.		
Number of personnel:	2-4	Width of inlet:	N/Aft
Current:	Minimal	Water depth at mouth:	N/Aft

Safety /Cautionary notes:

## Site Specific Information

Site# 21-P TGLO Polygon# 3

Quad Name Texas City



### Site information:

Site Description: Shore line of Moses Lake and Shell Island. Grassy shorelines on Southern side and wetlands on northern side. Best access is through the Texas Prairie Preserve.

Latitude: N 29°27'01"  
NOAA chart# 11324, 11326  
Nearest ICW Marker: N/A

Longitude: W 094°55'92" Map# 39  
County: Galveston  
Date last visited: February 18, 2005

### Access:

Closest Boat Ramp: "The Fish Spot" Texas City  
Distance: 10 minutes  
Boat type recommended: Shallow water draft  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29° 15'55.16"N  
094°51 '37.46"W

### From MSU Galveston:

Take 4SN. Take HWY 146/HWY 3 exit to the right. Take 146N. Take road to the right before the San Leon/ Dickinson Bayou bridge.

### Trustees/ Contact Numbers:

U.S.C.G. via NRC	(800)424-8802
TGLO via Hotline	(800)832-8224
TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority: High  
Environmental: Habitat for birds  
Economic: N/A

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/Aft
Current:	Slow	Water depth at mouth:	N/Aft

Safety / Cautionary notes:

---

## Site Specific Information

Site # 21-Q TGLO Polygon # 4

Quad Name Texas City



Site information:

Site Description: Islands in Moses Lake. Submerged at time of survey.

Latitude: N 29°27'53"

Longitude: W 094°57'09" Map# 39

NOAA chart# 11324, 11326

County: Galveston

Nearest ICW Marker: N/A

Date last visited: February 18, 2005

Access:

Closest Boat Ramp: "The Fish Spot" Texas City

Distance: 5 minutes

Boat type recommended: Shallow water draft

Closest Airport: Scholes Field Airport GLS

Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N

094°51 '37.46"W

Trustees/ Contact Numbers:

U.S.C.G. via NRC

(800)424-8802

TGLO via Hotline

(800) 832-8224

TCEQ

(512)463-7727

### Resources at Risk:

Atlas Priority: High

Environmental: Habitat for birds and oysters

Economic: N/A

### Booming strategy recommendations:

Recommendations: Boom to protect sensitive marshes

Number of personnel: 2-4 Width of inlet: N/A ft

Current: Slow Water depth at mouth: N/A ft

Safety / Cautionary notes:

## Site Specific Information

Site # 21-R    TQLO Polygon # 5    Quad Name Texas    ity



### Site information:

Site Description: Edwards Point Area. At end of Skyline Road by floodgate.

Latitude:	N 29°26'72"	Longitude:	W 094°55'05"	Map#	39
NOAA chart#	11324.11326	County:	Galveston		
Nearest ICW Marker:	N/A	Date last visited:	February 18, 2005		

### Access:

Closest Boat Ramp:	"The Fish Spot" Texas City
Distance:	5 minutes
Boat type recommended:	Shallow water draft
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29° 15'55.16"N 094°51'37.46"W

From MSU Galveston: Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take Loop 197 to the right Right on 8<sup>th</sup> Ave N. Left on Skyline Road.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	High
Environmental:	Habitat for birds
Economic:	N/A

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/A ft
Current:	Slow	Water depth at mouth:	N/A ft

Safety / Cautionary notes: Very strong currents around flood gate.

---



## Site Specific Information

Site # 21-S    TGLO Polygon # 6    Quad Name Texas    ity



### Site information:

Site Description: Moses Lake, Dollar Bay, Ray's Marina, and wetlands

Latitude:	N 29°25'20"	Longitude:	W 094°55'56"	Map#	39
NOAA chart#	11324, 11326	County:	Galveston		
Nearest ICW Marker:	N/A	Date last visited:	February 18, 2005		

### Access:

Closest Boat Ramp:	Ray's Marina TX City
Distance:	20 minutes
Boat type recommended:	Shallow water draft
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29° 15'55.16"N 094°51 '37.46"W

From MSU Galveston: Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take Loop 197 to the right. Stay on Loop 197 all the way around to the North side of Texas City and turn right on 23rd by Godard Park. Right on 36<sup>th</sup>. Left on 19th.

### Trustees/ Contact Numbers:

U.S.C.G. via NRC	(800) 424-8802
TGLO via Hotline	(800) 832-8224
TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Habitat for birds
Economic:	Several Fish houses

### Booming strategy r commendation :

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/A ft
Current:	Slow	Water depth at mouth:	N/Aft

Safety / Cautionary notes:



## Site Specific Information

Site # 21-T TGLO Polygon # 7

Quad Name Texas City



### Site information:

Site Description: East of Dollar Bay behind the TX City Protective Berm.

Latitude:	N 29°23'10"	Longitude:	W 094°47'65"	Map#	39
NOAA chart#	11324, 11326	County:	Galveston		
Nearest ICW Marker:	N/A	Date last visited:	February 18, 2005		

### Access:

Closest Boat Ramp:	"The Fish Spot" TX City
Distance:	20 minutes
Boat type recommended:	Shallow water draft
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29°15'55.16"N 094°51'37.46"W

From MSU Galveston: Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take Loop 197 to the right Right on 8<sup>th</sup> Ave N. Left on Skyline Road.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	High
Environmental:	Habitat for birds
Economic:	N/A

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/A ft
Current:	Slow	Water depth at mouth:	N/A ft

### Safety / Cautionary notes:

---

## Site Specific Information

Site# 21-U TGLO Polygon# 8

Quad Name Texas City



### Site information:

Site Description: Southern shore of Dollar Bay.

Latitude: N 29°23' 10"  
NOAA chart# 11324, 11326  
Nearest ICW Marker: N/A

Longitude: W 094°52'50" Map# 39  
County: Galveston  
Date last visited: February 18, 2005

### Access:

Closest Boat Ramp: "The Fish Spot" TX City  
Distance: 20 minutes  
Boat type recommended: Shallow water draft  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Scholes Field Airport, 29°15'55.16"N  
094°51 '37.46"W

From MSU Galveston: Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take Loop 197 to the right Right on 8th Ave N. Left on Skyline Road.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800)424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512)463-7727

### Resources at Risk:

Atlas Priority: Medium  
Environmental: Habitat for birds  
Economic: N/A

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/Aft
Current:	Slow	Water depth at mouth:	N/Aft

Safety / Cautionary notes: Very strong currents around floodgate.

## Site Specific Information

Site # 21-V TGLO Polygon # 9

Quad Name Texas City



Site information:

Site Description: South of Dollar Bay, wetlands.

Latitude:	N 29°24'33"	Longitude:	W 094°53'84"	Map#	39
NOAA chart#	11324, 11326	County:	Galveston		
Nearest ICW Marker:	N/A	Date last visited:	February 18, 2005		

Access:

Closest Boat Ramp:	"The Fish Spot" TX City
Distance:	20 minutes
Boat type recommended:	Shallow water draft
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Scholes Field Airport, 29° 15'55.16"N 094°51 '37.46"W

From MSU Galveston: Take 45N. Take HWY 146/HWY 3 exit to the right. Take 146N. Take Loop 197 to the right Right on 8th Ave N. Left on Skyline Road.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

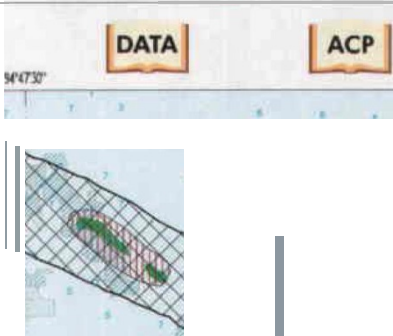
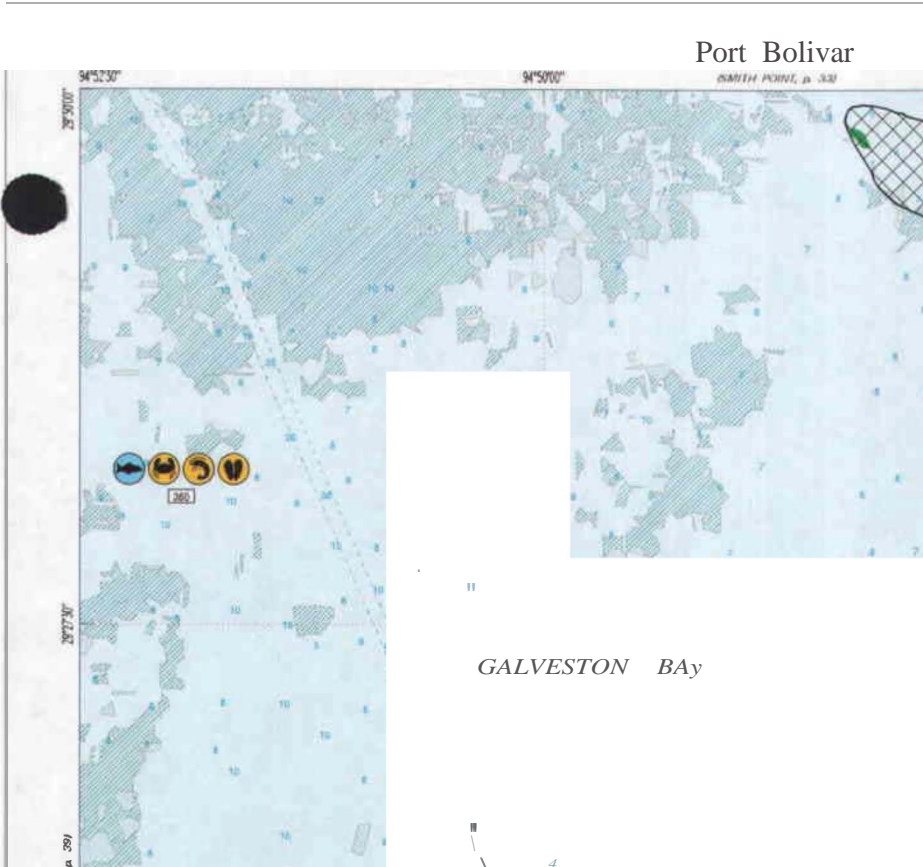
Atlas Priority:	Low
Environmental:	Wetlands
Economic:	N/A

### Bomiog strategy recommendation :

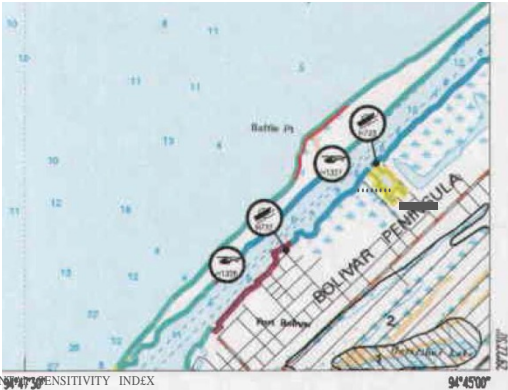
Recommendations:	Boom to protect sensitive marshes		
Number of personnel:	2-4	Width of inlet:	N/A ft
Current:	Slow	Water depth at mouth:	N/Aft

Safety / Cautionary notes:

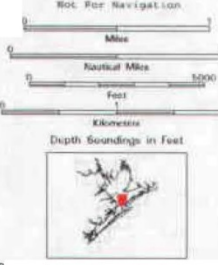
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GALVESTON Bay



j®



Boot Launch & 30

(GALVESTON, p. 41J

HUMAN-USE FEATURE&

Heliport  
PRIORITY PROTECTION AREAS

High Priority  
Medium Priority

10C • Frellhw.ter IW•mp•  
108 - Freehw.ter numthes  
10A - S & chv br:kild w.t.,  
9 - Sheltered tN:l flats  
BC • Sheltered te-P•

158 &po.Md IPHHP Itructurea  
6A Gt.-l be u  
5 - MUBIC -.nd ..M gr.wl  
4 - Covee-arained aand beacha.  
38 - SCorps and steep llope l  
in und

D MuNcl l Aru  
D lldelJ Mud Flet.  
Ed l Aru  
8ld RooUry Arl11  
Oyller Reef

ENVIRONMENTAL SENSITIVITY INDEX

**D** Low Priority  
E21 Cauton Aree

88 - ~~Sheltered~~ riprep  
BA - Shehared 10lid men-md  
dructurea  
7 - ExpoMd tidel fl.U

3A • Fine-grained eand beache1  
2B - Wne-cut clay platform•  
2A - 6C • .-d .ieep alopee  
in cl-v  
1 - Expoud willis and other  
.olid ltructuree

**D** Oy...r Sh.ll an Mud

# PORT BOLIVAR

Map #38

## Boat Ramps

RARNUM NAME

H550 Texas City Dike  
H614 Dan's  
H732 Shirley's Cafeteria  
H733 Hornbeck's Bait Camp  
H743 Texas City Dike

## HUMAN USE RESOURCES

## Heliports

RARNUM MANAGER

PHONE

H1326 Danny Nasser (713) 951-4700  
H1327 DLG.-Nasser (713) 951-4700

## BIOLOGICAL RESOURCES

### Birds

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	NESTING	LAYING	HATCHING	FLEDGING
349	Common goldeneye				X	X	X	X					X	X	X	X				-
	lesser scaup																			
	Common loon	S	SC		X	X	X	X					X	X	X		-			

### Fish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
349	Southern flounder				X	X	X	X	X	X	X	X	X	X	X	X		OCT-DEC
	Pinfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	MAR-MAY
	Striped mullet				X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	DEC-FEB
	Red drum				X	X	X	X	X	X	X	X	X	X	X	X	AUG-NOV	SEP-DEC
	Bay anchovy				X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC
	Seatrout				X	X	X	X	X	X	X	X	X	X	X	X		
	Atlantic croaker			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	APR-OCT
	Gulf menhaden				X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
360	Gulf menhaden			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	DEC-MAR
	Atlantic croaker			HIGH	X	X	X	X	X	X	X	X	X	X	X	X		APR-OCT
362	Gulf killifish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	APR-SEP

### Shellfish

RARNUM	NAME	S/F	T/E	CONCEN	J	F	M	A	M	J	J	A	S	O	N	D	SPAWNING	LARVAL/JUV
349	Brown shrimp				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	Blue crab				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	White shrimp				X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT
360	American oyster (eastern)				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-JUL
	Blue crab			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	MAY-AUG
	Brown shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	FEB-JUN
	White shrimp			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-OCT	MAY-OCT

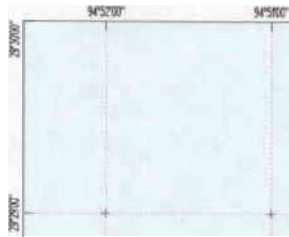
**PORT BOLIVAR****Map# 38**

Polygon #	Priority	Description : what organism(s), habitat(s)?
1	Medium	Horseshoe Lake area. Wetlands (high), nursery (high). Continued on Galveston quad. Can be protected from spills from Bolivar Roads by booming mouth of Horseshoe Bayou on Galveston quad.
2	Low	Horseshoe Lake-Oyster Lake area. Wetlands (high). Continued on Galveston and Flake quads.
3	Caution	Hanna Reef area. Diamondback terrapin. Note: Isolated oyster reefs in Hanna Reef complex can be exposed during extremely low tides.



# Port Bolivar Base Map

(SMITH POINT)  
94°49'00" 94°48'00"



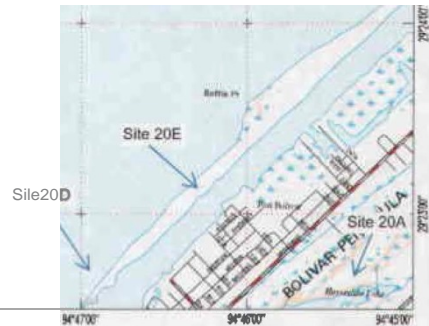
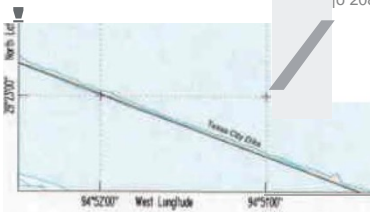
EAST BAY



GALVESTON BAY

Site 20F

a



OIL SPILL



2004-234

[View Port Bolivar Response Map](#)

[View all Port Bolivar Site Specific Plans](#)

Map Legend

**c:J** LM::Bily,RI-  
Mer.h.....nd.SW\*...  
**C1** RIH IMud, S.nd, Tldn  
InL:laradAr88  
DtIdedH6Qtwv  
1kdOT  
-Higllqv  
City su-t/Cofly And  
11dOT

## 20. PORT BOLIVAR

S Galveston Bay

CHART(S): Nautical Chart (11324, 11326 & 11331)

Upper Coast Atlas Page 38

STAGING AREAS: 1. Hornbeck's Bait Camp (2)(GIWW)  
29°23'22"N 094°45'35"W

2. Texas City Dike Ramps

ACCESS ROADS: 1. Hwy 87 east from ferry landing, turn left on 1<sup>st</sup> Street, proceed to Broadway Ave, turn right and proceed to 23rd. Street, turn left, ramp located at the end of the road.

2. Hwy 146 south to Hwy 197, turn left and proceed to 2nd. Ave., turn right on and proceed to Bay St., turn left and proceed to Texas City Dike Road, turn right and follow signs to boat ramps.

### DESCRIPTION:

20-A Boom to entrance to Horseshoe Lake  
20-B Boom Texas City Dike  
20-C Boom Hanna Reef  
20-D Boom entrance to GIWW  
20-E Staging area Erman Pilsner boat ramp Bolivar  
20-F Rollover pass  
20-G Bolivar ferry  
20-F East Bay

### CAUTION:

Large swells may develop near deep draft vessel movement, extra caution is recommended while operating near the Texas City Dike. Very shallow water near the shoreline and near Hanna Reef, shallow draft boats, or airboats may be required to respond.

### NATURAL COLLECTION AREA:

Deploy boom off the tip of Goat Island to guide oil into the GIWW between Bolivar Peninsula and the Island. Product tends to linger just off Goat Island.

## Site Specific Information

Site# 20-A TGLO Polygon# 10 Quad Name Port Bolivar



### Site information:

Site Description: Boom to entrance to Horseshoe Lake from shore.

Latitude:	N 29°22'3"	Longitude:	W 094°46'4"	Map#	38
NOAA chart#	11324,11326,11331	County:	Galveston		
Nearest ICW Marker:	350	Date last visited:	April 27, 2005		

### Access:

Closest Boat Ramp:	Erman Pilsner
Distance:	10 minutes
Boat type recommended:	V-hull
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Danny Nasser

From MSU Galveston:

Cross ferry, take 87 east to first left onto French Town Rd entrance is 1st small bridge.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	low
Environmental:	turtle
Economic:	N/A

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes.	
Number of personnel:	2-4	Width of inlet: 75ft
Current:	Medium	Water depth at mouth: ft

Safety /Cautionary notes: Strong tidal current

---

## Site Specific Information

Site # 20-A-2      TGLO Polygon # 2      Quad Name Port Bolivar



### Site information:

Site Description: Horseshoe Lake-Oyster lake area.

Latitude:	N 29°22'3"	Longitude:	W 094°46'4"	Map#	38
NOAA chart#	11324,11326,11331	County:	Galveston		
Nearest ICW Marker:	350	Date last visited:	April 27, 2005		

### Access:

Closest Boat Ramp:	Erman Pilsner boat ramp
Distance:	10 minutes
Boat type recommended:	Shallow flat boat
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Danny Nasser

From MSO Houston-Galveston:

Cross ferry take 87 east take 1st left onto Frenchtown Rd. lake on right.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Low
Environmental:	Turtles
Economic:	N/A

### Booming strategy recommendation :

Recommendations:	Boom to protect sensitive marshes.	
Number of personnel:	2-4	Width of inlet: ft
Current:	Medium	Water depth at mouth: ft

Safety / Cautionary notes:

---

## Site Specific Information

Site# 20-A-3

TGLO Polygon# 11

Quad Name Port Bolivar



### Site information:

Site Description: Horseshoe Lake area

Latitude:	N 29°22'3"	Longitude:	W 094°46'4"	Map#	38
NOAA chart#	11324,11326,11331	County:	Galveston		
Nearest ICW Marker:	350	Date last visited:	April 27, 2005		

### Access:

Closest Boat Ramp:	Erman Pilsner
Distance:	10 minutes
Boat type recommended:	Shallow flat bottom
Closest Airport:	Scholes Field Airport GLS
Closest Helicopter Landing:	Danny Nasser

From MSO Houston-Galveston:

Cross ferry take Hwy 87 east, taking 1<sup>st</sup> left onto Frenchtown Rd., the lake is on the right.

<u>Trustees/ Contact Numbers:</u>	U.S.C.G. via NRC	(800) 424-8802
	TGLO via Hotline	(800) 832-8224
	TCEQ	(512) 463-7727

### Resources at Risk:

Atlas Priority:	Medium
Environmental:	Turtle
Economic:	N/A

### Booming strategy recommendations:

Recommendations:	Boom to protect sensitive marshes.	
Number of personnel:	2-4	Width of inlet: ft
Current:	Medium	Water depth at mouth:

Safety / Cautionary notes:

---

## Site Specific Information

Site # 20-B TGLO Polygon #N/A

Quad Name Port Bolivar



### Site information:

Site Description: Texas City Dike

Latitude: N 29°23'5"

Longitude: W 094°52'4" Map# 38

NOAA chart# 11324,11326,11331

County: Galveston

Nearest ICW Marker: 351

Date last visited: April 27, 2005

### Access:

Closest Boat Ramp: Curls boat ramp

Distance: 20 minutes

Boat type recommended: V-hull

Closest Airport: Scholes Field Airport GLS

Closest Helicopter Landing: B/P Amoco

### From MSU Galveston:

45 north to Texas City, exit FM 1764, go east about 15 min, make right on 9<sup>th</sup> Ave till you come to the Texas City Dike.

### Trustees/ Contact Numbers:

U.S.C.G. via NRC

(800)424-8802

TGLO via Hotline

(800) 832-8224

TCEQ

(512)463-7727

### Resources at Risk:

Atlas Priority: High

Environmental: Wildlife

Economic: N/A

### Booming strategy recommendation :

Recommendations: Boom to protect sensitive marshes.

Number of personnel: 4-6 Width of inlet: ft

Current: Medium Water depth at mouth: ft

### Safety /Cautionary notes:

---

## Site Specific Information

Site # 20-C TGLO Polygon # 3

Quad Name Port Bolivar



### Site information:

Site Description: Hanna Reef Area

Latitude: N 29°28'0" Longitude: W 094°46'0" Map# 38  
NOAA chart# 11324,11326,11331 County: Galveston  
Nearest ICW Marker: 348 Date last visited: April 27, 2005

### Access:

Closest Boat Ramp: Hornbeck's Bait Camp  
Distance: 10 minutes  
Boat type recommended: V-Hull  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Danny Nasser

From MSU Galveston:  
No land access

### Trustees/ Contact Numbers:

U.S.C.G. via NRC (800)424-8802  
TGLO via Hotline (800)832-8224  
TCEQ (512)463-7727

### Resources at Risk:

Atlas Priority: Caution  
Environmental: Isolated oyster reef; diamond back terrapin  
Economic: N/A

### Booming tratel0\* recommendations:

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 2-4 Width of inlet: N/Aft  
urreot: Medium Water depth at mouth: N/A

Safety / Cautionary notes:

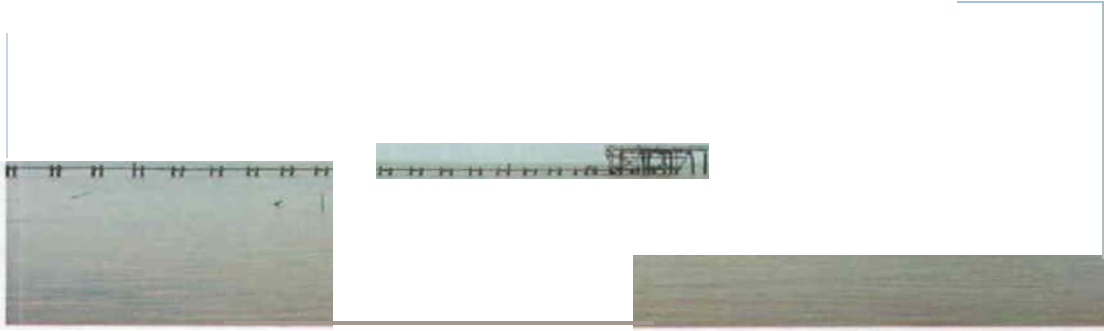
---



---

## Site Specific Information

Site# 20-D TGLO Polygon# 14 Quad Name Port Bolivar



### Site information:

Site Description: Boom entrance to GIWW.

Latitude: N 29°22'43" Longitude: W 094°46'59" Map# 58  
NOAA chart# 11324,11326,11331 County: Galveston  
Nearest ICW Marker: 350.5 Date last visited: April 27, 2005

### Access:

Closest Boat Ramp: Erman Pilsner  
Distance: 10 minutes  
Boat type recommended: V-hull  
Closest Airport: Scholes Field Airport GLS  
Closest Helicopter Landing: Danny Nasser

From MSU Galveston:

Access by boat

### Trustees/ Contact Numbers:

U.S.C.G. via NRC (800) 424-8802  
TGLO via Hotline (800) 832-8224  
TCEQ (512) 463-7727

### Resources at Risk:

Atlas Priority: Low  
Environmental: Wildlife  
Economic: N/A

### Booming strategy recommendations:

Recommendations: Boom to protect sensitive marshes.  
Number of personnel: 2-6 Width of inlet: ft  
Current: High Water depth at mouth: ft

Safety / Cautionary notes:

\_\_\_\_\_

## Site Specific Information

Site# 20-E TGLO Polygon# 16

Quad Name Port Bolivar



### Site information:

Site Description: \_Stagging area; 20ft wide boat ramp Erman Pilsner boat ramp 16th st. Bolivar.

Latitude: N 29°22' 17"

Longitude: W 094°45'06" Map# 38

NOAA chart# 11324,11326,11331

County: Galveston

Nearest ICW Marker: 348

Date last visited: April 27, 2005

### Access:

Closest Boat Ramp:

GYB

Distance:

10 minutes

Boat type recommended:

V-Hull

Closest Airport:

Scholes Field Airport GLS

Closest Helicopter Landing:

Danny Nasser

From MSO Houston-Galveston:

Cross ferry, take Hwy 87 east, go to 16th St., turn right following down to the beach dead ends into ramp on the southside of North Jetty in Bolivar.

### Trustees/ Contact Numbers:

U.S.C.G. via NRC

(800) 424-8802

TGLO via Hotline

(800) 832-8224

TCEQ

(512) 463-7727

### Resources at Risk:

Atlas Priority: low

Environmental: N/A

Economic: N/A

### Booming strategy recommendation :

Recommendations: Boom to protect sensitive marshes.

Number of personnel:

2-4

Width of inlet:

ft.

Current:

Medium

Water depth at mouth:

ft

### Safety / Cautionary notes:

## Site Specific Information

Site # 20-F TGLO Polygon # 3

Quad Name Port Bolivar



### Site information:

Site Description: East Bay

Latitude: N 28°28'4"

Longitude: W 094°45'0" Map# 39

NOAA chart# 11324,11326,11331

County: Galveston

Nearest ICW Marker: 348

Date last visited: April 27, 2005

### Access:

Closest Boat Ramp: Shirley's bait camp

Distance: 10 minutes

Boat type recommended: V-Hull

Closest Airport: Scholes Field Airport GLS

Closest Helicopter Landing: Baffle Point

From MSU Galveston:

Launch boat from GYB head northeast.

### Trustees/ Contact Numbers:

U.S.C.G. via NRC

(800) 424-8802

TGLO via Hotline

(800) 832-8224

TCEQ

(512) 463-7727

### Resources at Risk:

Atlas Priority: Caution

Environmental: Wildlife

Economic: N/A

### Bunding strategy recommendation :

Recommendations: Boom to protect sensitive marshes.

Number of personnel: 2-4 Width of inlet: \_\_\_\_\_ ft

Current: Medium Water depth at mouth: \_\_\_\_\_

Safety / Cautionary notes:

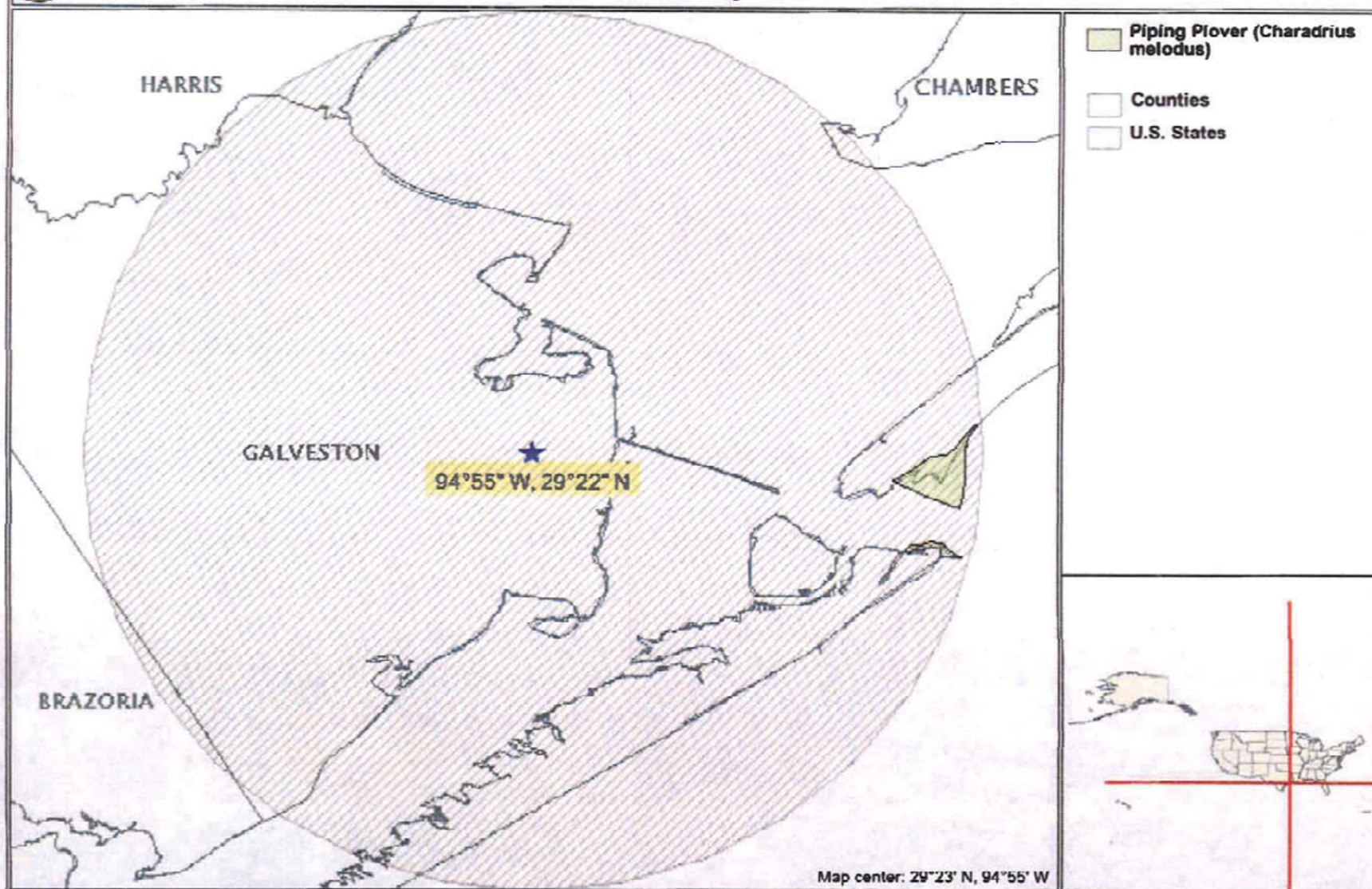
**FIGURE 6.2 (Cont'd)**

**Critical Habitats**





# Blanchard Refining Company LLC. - Galveston Bay Refinery



Disclaimer: This map DOES NOT represent all of the critical habitat designated by the U.S. Fish & Wildlife Service. It shows only the available digitized critical habitats that have been submitted into this system as of print date.



Scale 1:279,302  
U.S. Fish & Wildlife Service  
Printed: May 8, 2007 11:32:33 AM

**APPENDIX A**

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**RESPONSE EQUIPMENT / RESOURCES**

**RESPONSE EQUIPMENT / RESOURCES**

A.1 Facility Response Resources..... A-2

A.2 Contract Resources ..... A-2

A.3 Experts and Consultants..... A-2

A.4 Volunteers ..... A-2

A.5 Communications ..... A-2

**FIGURES**

Figure A.1 Facility Response Equipment..... A-4

Figure A.2 Contracted Response Resources ..... A-6

Figure A.3 Revised USCG OSRO Classifications..... A-7

Figure A.4 OSRO/Contractor Contracts and Annual Deployment Letters ..... A-10



## RESPONSE EQUIPMENT/RESOURCES

The following sections outline the various response equipment/resources available from the Facility, other Company facilities, Oil Spill Removal Organizations, and other outside resources.

### A.1 FACILITY RESPONSE RESOURCES

In the event of a discharge that is within the initial response capabilities of the Site, the TCS Fire Department would be activated. For spill response operations outside the capabilities of the Fire Department, the QI/AQI or IC will determine the need for mobilization of the Oil Spill Removal Organization (OSRO). The Facility does not have spill response equipment and relies upon the OSRO for response resources within the required response times.

### A.2 CONTRACT RESOURCES

The Facility has agreements in place with the OSRO that would be activated if necessary. Figure A.2 lists the contracted Oil Spill Removal Organization (Garner Environmental Services, Inc.).

Figure A.2 provides a quick reference to the Oil Spill Removal Organizations and details their response capability and estimated response times. **Telephone reference is provided in Section 2.2.** Figure A.3 is a description of the USCG classifications according to the OSRO response capabilities. Figure A.4 includes the current OSRO contracts and their annual deployment letters. *(Note: The Company receives annual PREP letters to ensure that each OSRO has a comprehensive maintenance program and applicable training / drills programs in place.*

### A.3 EXPERTS AND CONSULTANTS

The Company maintains a relationship with various environmental and technical consultants that can provide support in the event of an emergency incident. These consultants can provide expertise and support in the areas of emergency response management, environmental services, site assessment, permitting, waste treatment, recycling, dewatering, hazardous waste disposal, and remediation.

### A.4 VOLUNTEERS

Volunteers will not be utilized by the Company for the response operations. All volunteers will be referred to the State or Federal On-Scene Coordinator.

### A.5 COMMUNICATIONS

Effective and efficient communications systems are essential for emergency response at every level. The communications system will be utilized to gather information and current status reports as well as to provide coordination and direction to widely separated work groups involved in search, containment/ diversion, repair, traffic control, public control or evacuation, and restoration.

Communication of the overall spill response operation between the Company and the responsible government agencies in the Federal Regional Response Team (RRT) will occur

between the Incident Commander and the Federal On-Scene Coordinator.

## **A.5 COMMUNICATIONS (Cont'd)**

### **Emergency Operations Center (EOC)**

The Emergency Management Center will serve as the Command Post for an oil spill.

The number of personnel required will be dictated by the magnitude of the spill.

For communications purposes, the EOC is equipped with:

- Telephones
- Radios
- Computers

FIGURE A.1\*

FACILITY RESPONSE EQUIPMENT						
Date of Last Update:			Last Inspection or Response Equipment Test Date:			
Inspected By:			Last Deployment Drill Date:			
Inspection Frequency:			Deployment Frequency:			
SKIMMERS/PUMPS						
Type/Model/Year	Operational Status	Quantity	Capacity gal./min.	Daily Effective Recovery Rate	Storage Location(s)	Date Fuel Last Changed
		NONE				
BOOM						
Type/Model/Year	Operational Status	Number	Size (Length)	Containment Area	Storage Location(s)	
		NONE				
CHEMICAL DISPERSANTS						
Type	Operational Status	Amount	Date Purchased	Treatment Capacity	Storage Location(s)	Date Changed
		NONE				

\* The Texas City Site does not maintain response equipment and relies on contracted OSRO resources to meet OPA90 response resource caps.

FIGURE A.1 (Cont'd)

FACILITY RESPONSE EQUIPMENT (Cont'd)					
Date of Last Update:		Last Inspection or Response Equipment Test Date:			
Inspected By:		Last Deployment Drill Date:			
Inspection Frequency:		Deployment Frequency:			
DISPERSANT DISPENSING EQUIPMENT					
Type/Year	Operational Status	Capacity	Storage Location(s)	Response Time	
	NONE				
SORBENTS					
Type/Year Purchased	Operational Status	Amount	Absorption Capacity gal.	Shelf Life	Storage Location(s)
	NONE				
HAND TOOLS					
Type/Year	Operational Status		Quantity	Storage Location(s)	
	NONE				
COMMUNICATION EQUIPMENT					
Type/Year	Operational Status		Quantity	Storage Location(s)/Number	
	NONE				
FIRE FIGHTING AND PERSONNEL PROTECTIVE EQUIPMENT					
Type/Year	Operational Status		Quantity	Storage Location(s)	
	Firefighting resources will be provided by the Facility's fire brigade and supplemented by local municipal equipment, as needed.				
OTHER EQUIPMENT					
Type/Year	Operational Status		Quantity	Storage Location(s)	
	NONE				

**FIGURE A.2**  
**CONTRACTED RESPONSE RESOURCES**  
**HOUSTON-GALVESTON CAPTAIN OF THE PORT (COTP) ZONE**

USCG Classified Oil Spill Removal Organization (OSRO)							
OSRO Name	Response Time	Environment Type	Facility Classification Level				High Volume Port
			MM	W1	W2	W3	
Garner Environmental Services, Inc.	1 Hour	River/Canal	X	X	X	X	Yes
		Inland	X	X	X	X	
T&T Marine Salvage Inc.	1 Hour	River/Canal	X	X	X	X	Yes
		Inland	X	X	X	X	

Note: Classification ratings were taken from the USCG's Internet site [www.uscg.mil/hq/nsfweb/NSF/onlinedocosro.html](http://www.uscg.mil/hq/nsfweb/NSF/onlinedocosro.html).

FIGURE A.3

## USCG OSRO CLASSIFICATIONS

The USCG has classified OSROs according to their response capabilities, within each Captain of the Port (COTP) zone, for vessels and for facilities in four types of environments. Response capabilities are rated MM, W1, W2, or W3 as described below.

MINIMUM EQUIPMENT REQUIREMENTS FOR OSRO CLASSIFICATIONS			
Classification	Resource Quantity Guidelines <sup>2,3</sup>	Maximum Facility Response Times	Maximum Vessel Response Times
<b>Rivers/Canals<sup>1</sup></b>			
MM	Protective Boom: 4,000*ft EDRC: 1,200 bbls TSC: 2,400 bbls	High Volume Ports: 6 hours Other Ports: 12 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W <sup>1</sup>	Protective Boom: 25,000*ft EDRC: 1,875 bbls TSC: 3,750 bbls	High Volume Ports: 12 hours Other Ports: 24 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W <sup>2</sup>	Protective Boom: 25,000*ft EDRC: 3,750 bbls TSC: 7,500 bbls	High Volume Ports: 30 hours Other Ports: 36 hours	High Volume Ports: 36 hours Other Ports: 48 hours
W <sup>3</sup>	Protective Boom: 25,000*ft EDRC: 7,500 bbls TSC: 15,000 bbls	High Volume Ports: 54 hours Other Ports: 60 hours	High Volume Ports: 60 hours Other Ports: 72 hours
<b>Great Lakes</b>			
MM	Protective Boom: 6,000*ft EDRC: 1,250 bbls TSC: 2,500 bbls	All Ports: 6 hours	All Ports: 12 hours
W <sup>1</sup>	Protective Boom: 30,000*ft EDRC: 6,250 bbls TSC: 12,500 bbls	High Volume Ports: 12 hours Other Ports: 24 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W <sup>2</sup>	Protective Boom: 30,000*ft EDRC: 12,500 bbls TSC: 25,000 bbls	All Ports: 36 hours	All Ports: 42 hours
W <sup>3</sup>	Protective Boom: 30,000*ft EDRC: 25,000 bbls TSC: 50,000 bbls	All Ports: 60 hours	All Ports: 66 hours

FIGURE A.3

## USCG OSRO CLASSIFICATIONS (Cont'd)

The USCG has classified OSROs according to their response capabilities, within each Captain of the Port (COTP) zone, for vessels and for facilities in four types of environments. Response capabilities are rated MM, W1, W2, or W3 as described below.

MINIMUM EQUIPMENT REQUIREMENTS FOR OSRO CLASSIFICATIONS				
Classification	Resource Quantity Guidelines <sup>2,3</sup>		Maximum Facility Response Times	Maximum Vessel Response Times
Inland <sup>1</sup>				
MM	Protective Boom:	6,000* ft		
	EDRC:	1,200 bbls	High Volume Ports: 6 hours	High Volume Ports: 12 hours
	TSC:	2,400 bbls	Other Ports: 12 hours	Other Ports: 24 hours
W <sup>1</sup>	Protective Boom:	30,000* ft		
	EDRC:	12,500 bbls	High Volume Ports: 12 hours	High Volume Ports: 12 hours
	TSC:	25,000 bbls	Other Ports: 24 hours	Other Ports: 24 hours
W <sup>2</sup>	Protective Boom:	30,000* ft		
	EDRC:	25,000 bbls	High Volume Ports: 30 hours	High Volume Ports: 36 hours
	TSC:	50,000 bbls	Other Ports: 36 hours	Other Ports: 48 hours
W <sup>3</sup>	Protective Boom:	30,000* ft		
	EDRC:	50,000 bbls	High Volume Ports: 54 hours	High Volume Ports: 60 hours
	TSC:	100,000 bbls	Other Ports: 60 hours	Other Ports: 72 hours
Nearshore				
MM	Protective Boom:	8,000* ft		High Volume Ports: 12 hours
	EDRC:	1,200 bbls	High Volume Ports: 6 hours	Other Locations: 24 hours
	TSC:	2,400 bbls	Other Locations: 12 hours	(for open ocean, plus travel time from shore)
W <sup>1</sup>	Protective Boom:	30,000* ft		
	EDRC:	12,500 bbls	High Volume Ports: 12 hours	High Volume Ports: 12 hours
	TSC:	25,000 bbls	Other Locations: 24 hours	Other Locations: 24 hours
W <sup>2</sup>	Protective Boom:	30,000* ft		
	EDRC:	25,000 bbls	High Volume Ports: 30 hours	High Volume Ports: 36 hours
	TSC:	50,000 bbls	Other Locations: 36 hours	Other Locations: 48 hours
W <sup>3</sup>	Protective Boom:	30,000* ft		
	EDRC:	50,000 bbls	High Volume Ports: 54 hours	High Volume Ports: 60 hours
	TSC:	100,000 bbls	Other Locations: 60 hours (for open ocean, plus travel time from shore)	Other Locations: 72 hours (for open ocean, plus travel time from shore)



FIGURE A.3

## USCG OSRO CLASSIFICATIONS (Cont'd)

The USCG has classified OSROs according to their response capabilities, within each Captain of the Port (COTP) zone, for vessels and for facilities in four types of environments. Response capabilities are rated MM, W1, W2, or W3 as described below.

MINIMUM EQUIPMENT REQUIREMENTS FOR OSRO CLASSIFICATIONS			
Classification	Resource Quantity Guidelines <sup>2,3</sup>	Maximum Facility Response Times	Maximum Vessel Response Times
Offshore			
MM	Protective Boom: 8,000* ft EDRC: 1,200 bbls TSC: 2,400 bbls	High Volume Ports: 6 hours Other Ports: 12 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W <sup>1</sup>	Protective Boom: 15,000* ft EDRC: 12,500 bbls TSC: 25,000 bbls	High Volume Ports: 24 hours Other Ports: 48 hours	High Volume Ports: 24 hours Other Ports: 48 hours
W <sup>2</sup>	Protective Boom: 15,000* ft EDRC: 25,000 bbls TSC: 50,000 bbls	High Volume Ports: 30 hours Other Ports: 36 hours	High Volume Ports: 36 hours Other Ports: 48 hours
W <sup>3</sup>	Protective Boom: 15,000 ft EDRC: 50,000 bbls TSC: 100,000 bbls	High Volume Ports: 54 hours Other Ports: 60 hours	High Volume Ports: 60 hours Other Ports: 72 hours
Open Ocean			
MM	Protective Boom: 0 ft EDRC: 1,200 bbls TSC: 2,400 bbls	High Volume Ports: 6 hours Other Ports: 12 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W <sup>1</sup>	Protective Boom: 0 ft EDRC: 12,500 bbls TSC: 25,000 bbls	High Volume Ports: 6 hours Other Ports: 12 hours	High Volume Ports: 12 hours Other Ports: 24 hours
W <sup>2</sup>	Protective Boom: 0 ft EDRC: 25,000 bbls TSC: 50,000 bbls	High Volume Ports: 30 hours Other Ports: 36 hours	High Volume Ports: 36 hours Other Ports: 48 hours
W <sup>3</sup>	Protective Boom: 0 ft EDRC: 50,000 bbls TSC: 100,000 bbls	High Volume Ports: 54 hours Other Ports: 60 hours	High Volume Ports: 60 hours Other Ports: 72 hours
<sup>1</sup> Rivers/canals include bodies of water, including the Intracoastal Waterway and other bodies artificially created for navigation, confined within an inland area and having a project depth of 12 feet (3.66 meters). <sup>2</sup> EDRC stands for "effective daily recovery capacity," or the calculated recovery capacity of oil recovery devices determined by using a formula that takes into account limiting factors such as daylight, weather, sea state, and emulsified oil in the recovered material. <sup>3</sup> TSC stands for "temporary storage capacity," meaning sufficient storage capacity equal to twice the EDRC of an OSRO. Temporary storage may include inflatable bladders, rubber barges, certified barge capacity, or other temporary storage that can be utilized on scene at a spill response and which is designed and intended for the storage of flammable or combustible liquids. It does not include vessels or barges of opportunity for which no pre-arrangements have been made. Fixed shore-based storage capacity, ensured available by contract or other means, will be acceptable. * In addition, 1,000 feet of containment boom plus 300 feet per skimming system.			

**FIGURE A.4**  
**SERVICE CONTRACTS**  
**HOUSTON-GALVESTON COTP ZONE**

**Garner Environnemental Services – ERBR12985**

**T&T Marine Salvage Inc. – ERBR12986**

**APPENDIX B**

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**WORST CASE DISCHARGE ANALYSIS  
AND SCENARIOS**

	<u>Page</u>
B.1 Introduction .....	B-2
B.2 Response Planning Volume Calculations .....	B-3
B.3 Response Capability Scenarios .....	B-9
Small Discharge .....	B-10
Medium Discharge .....	B-13
EPA Worst Case Discharge .....	B-15
B.4 Planning Distance Calculation .....	B-18

## WORST CASE DISCHARGE ANALYSIS AND SCENARIOS

### B.1 INTRODUCTION

The Site is classified as a "Complex Facility" that operates in a Higher Volume Port Area. A complex means a facility possessing both transportation and non-transportation-related components. This Plan represents the non-transportation components under 40 CFR Part 112.

#### EPA Discharge Volume Calculation

- **Worst Case Discharge (WCD)**  
*100% of the largest single tank*
- **Medium Discharge (MD)**  
Discharge greater than 2,100 gallons (50 Bbls) and less than or equal to 36,000 gallons (857 Bbls) or 10% of the capacity of the largest tank, whichever is less and not to exceed the WCD
- **Small Discharge (SD)**  
**Discharge of less than or equal to 2,100 gallons (50 Bbls), not to exceed the WCD**

The following planning volume calculations must be performed to determine the required response resources for a Worst Case Discharge:

#### ***Planning Volume for On-Shore Recovery (OSR)***

$$\text{OSR} = \text{WCD} * \% \text{ Oil On Shore} * \text{Emulsification Factor}$$

#### ***Planning Volume for On-Water Recovery (OWR)***

$$\text{OWR} = \text{WCD} * \% \text{ Recovered Floating Oil} * \text{Emulsification Factor}$$

#### ***Recovery Capacity (RC)***

$$\text{RC} = \text{OWR} * \text{On-Water Recovery Resource Mobilization Factors}$$

The recovery capacity determined by these equations is compared to the appropriate response capability caps from the EPA tables. The actual contracted response amount is the lesser of the two values. If the calculated capacity exceeds the capability caps, sufficient response resources should be available for twice the amount of the caps or up to the total planning volume, whichever is less.

**B.2 RESPONSE PLANNING VOLUME CALCULATIONS**

Assumptions and factors are provided in 40 CFR 112 for worst case discharge resources and removal capacity planning determination. This information is summarized in the table entitled “EPA Tables For Worst Case Discharge Response Resources Determination And Removal Capacity Planning”.

Response planning volume calculations were developed using the largest worst case discharge for each of the oil groups. These calculations are summarized herein.

**EPA TABLES**  
**FOR WORST CASE DISCHARGE RESPONSE RESOURCES**  
**DETERMINATION**  
**AND REMOVAL CAPACITY PLANNING**

Spill Location	Rivers & Canals			Nearshore/Inland/Great Lakes		
Sustainability of on-water oil recovery	3 Days			4 Days		
Oil Group	% Natural Dissipation	% Recovered Floating Oil	% Oil On Shore	% Natural Dissipation	% Recovered Floating Oil	% Oil On Shore
1. Non-persistent oils	80	10	10	80	20	10
2. Light crudes	40	15	45	50	50	30
3. Medium crudes and fuels	20	15	65	30	50	50
4. Heavy crudes and fuels	5	20	75	10	50	70

**EMULSION FACTORS**

<u>NON-PERSISTENT OIL</u>	
Group 1	1.0
<u>PERSISTENT OIL</u>	
Group 2	1.8
Group 3	2.0
Group 4	1.4
Group 5	1.0

**RESPONSE CAPABILITY CAPS (bbbls/day)**  
**(Maximum Required Recovery levels)**

AREA	TIER 1	TIER 2	TIER 3
Rivers and Canals	1,875	3,750	7,500
Great Lakes	6,350	12,300	25,000
Inland/Nearshore	12,500	25,000	50,000

**ON-WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS**

AREA	TIER 1	TIER 2	TIER 3
River	.30	.40	.60
Inland/Nearshore Great Lakes	.15	.25	.40

NOTE: These mobilization factors are for total resources mobilized, not incremental response resources.

**RESPONSE TIME (hours)**

AREA	TIER 1	TIER 2	TIER 3
Higher volume port area	6	30	54
All Other	12	36	60

### Galveston Bay Refinery Response Planning Volume Calculations

Location Data																												
Location Type	Nearshore/Inland																											
Port Type	High Volume Port																											
WCD Product Type	Gasoline																											
Product Group	1																											
Capacity of the Largest Single Tank (bbls)	320,000																											
Discharge Volumes/Calculations																												
Average Most Probable or Small Discharge (bbls)	50																											
Maximum Most Probable or Medium Discharge (bbls)	857																											
<b>Worst Case Discharge - Based on EPA criteria (bbls)</b>	<b>320,000</b>																											
EPA WCD Calculation: 100% * Capacity of the Largest Single Tank																												
Selected Calculation Factors (Based on EPA Tables)																												
Removal Capacity Planning Volume - Percent Natural Dissipation	80%																											
Removal Capacity Planning Volume - Percent Recovered Floating Oil	20%																											
Removal Capacity Planning Volume - Percent Oil Onshore	10%																											
Emulsification Factor	1.0																											
Tier 1 - On Water Oil Recovery Resource Mobilization Factor	15%																											
Tier 2 - On Water Oil Recovery Resource Mobilization Factor	25%																											
Tier 3 - On Water Oil Recovery Resource Mobilization Factor	40%																											
Response Planning Volume Calculation																												
On-Water Recovery Volume (bbls)	64,000																											
Shoreline Recovery Volume (bbls)	32,000																											
Shoreline Cleanup Volume (bbls)	32,000																											
	<table><tr><th>Tier 1</th><th>Tier 2</th><th>Tier 3</th></tr><tr><td>On-Water Recovery Cpcty (bbls/day)</td><td>9,600</td><td>16,000</td><td>25,600</td></tr><tr><td>Shallow Water Resp Cpblty (bbls/day)</td><td>1,920</td><td>3,200</td><td>5,120</td></tr><tr><td>Storage Capacity (bbls/day)</td><td>19,200</td><td>32,000</td><td>51,200</td></tr><tr><td>On-Water Response Caps (bbls/day)</td><td>12,500</td><td>25,000</td><td>50,000</td></tr><tr><td>Additional Response Req'd (bbls/day)</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Response Time (hrs)</td><td>6</td><td>30</td><td>54</td></tr></table>	Tier 1	Tier 2	Tier 3	On-Water Recovery Cpcty (bbls/day)	9,600	16,000	25,600	Shallow Water Resp Cpblty (bbls/day)	1,920	3,200	5,120	Storage Capacity (bbls/day)	19,200	32,000	51,200	On-Water Response Caps (bbls/day)	12,500	25,000	50,000	Additional Response Req'd (bbls/day)	0	0	0	Response Time (hrs)	6	30	54
Tier 1	Tier 2	Tier 3																										
On-Water Recovery Cpcty (bbls/day)	9,600	16,000	25,600																									
Shallow Water Resp Cpblty (bbls/day)	1,920	3,200	5,120																									
Storage Capacity (bbls/day)	19,200	32,000	51,200																									
On-Water Response Caps (bbls/day)	12,500	25,000	50,000																									
Additional Response Req'd (bbls/day)	0	0	0																									
Response Time (hrs)	6	30	54																									



### Galveston Bay Refinery Response Planning Volume Calculations

Location Data																												
Location Type	Nearshore/Inland																											
Port Type	High Volume Port																											
WCD Product Type	Finish Gasoline																											
Product Group	2																											
Capacity of the Largest Single Tank (bbls)	213,000																											
Discharge Volumes/Calculations																												
Average Most Probable or Small Discharge (bbls)	50																											
Maximum Most Probable or Medium Discharge (bbls)	857																											
<b>Worst Case Discharge - Based on EPA criteria (bbls)</b>	<b>213,000</b>																											
EPA WCD Calculation: 100% * Capacity of the Largest Single Tank																												
Selected Calculation Factors (Based on EPA Tables)																												
Removal Capacity Planning Volume - Percent Natural Dissipation	50%																											
Removal Capacity Planning Volume - Percent Recovered Floating Oil	50%																											
Removal Capacity Planning Volume - Percent Oil Onshore	30%																											
Emulsification Factor	1.8																											
Tier 1 - On Water Oil Recovery Resource Mobilization Factor	15%																											
Tier 2 - On Water Oil Recovery Resource Mobilization Factor	25%																											
Tier 3 - On Water Oil Recovery Resource Mobilization Factor	40%																											
Response Planning Volume Calculation																												
On-Water Recovery Volume (bbls)	106,500																											
Shoreline Recovery Volume (bbls)	63,900																											
Shoreline Cleanup Volume (bbls)	115,020																											
	<table><tr><th>Tier 1</th><th>Tier 2</th><th>Tier 3</th></tr><tr><td>On-Water Recovery Cpcty (bbls/day)</td><td>28,755</td><td>47,925</td><td>76,680</td></tr><tr><td>Shallow Water Resp Cpblty (bbls/day)</td><td>5,751</td><td>9,585</td><td>15,336</td></tr><tr><td>Storage Capacity (bbls/day)</td><td>57,510</td><td>95,850</td><td>153,360</td></tr><tr><td>On-Water Response Caps (bbls/day)</td><td>12,500</td><td>25,000</td><td>50,000</td></tr><tr><td>Additional Response Req'd (bbls/day)</td><td>16,255</td><td>22,925</td><td>26,680</td></tr><tr><td>Response Time (hrs)</td><td>6</td><td>30</td><td>54</td></tr></table>	Tier 1	Tier 2	Tier 3	On-Water Recovery Cpcty (bbls/day)	28,755	47,925	76,680	Shallow Water Resp Cpblty (bbls/day)	5,751	9,585	15,336	Storage Capacity (bbls/day)	57,510	95,850	153,360	On-Water Response Caps (bbls/day)	12,500	25,000	50,000	Additional Response Req'd (bbls/day)	16,255	22,925	26,680	Response Time (hrs)	6	30	54
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Response Time (hrs)	6	30	54																									

### Galveston Bay Refinery Response Planning Volume Calculations

Location Data			
Location Type	Nearshore/Inland		
Port Type	High Volume Port		
WCD Product Type	Crude Oil		
Product Group	3		
Capacity of the Largest Single Tank (bbls)	750,000		
Discharge Volumes/Calculations			
Average Most Probable or Small Discharge (bbls)	50		
Maximum Most Probable or Medium Discharge (bbls)	857		
<b>Worst Case Discharge - Based on EPA criteria (bbls)</b>	<b>750,000</b>		
EPA WCD Calculation: 100% * Capacity of the Largest Single Tank			
Selected Calculation Factors (Based on EPA Tables)			
Removal Capacity Planning Volume - Percent Natural Dissipation	30%		
Removal Capacity Planning Volume - Percent Recovered Floating Oil	50%		
Removal Capacity Planning Volume - Percent Oil Onshore	50%		
Emulsification Factor	2.0		
Tier 1 - On Water Oil Recovery Resource Mobilization Factor	15%		
Tier 2 - On Water Oil Recovery Resource Mobilization Factor	25%		
Tier 3 - On Water Oil Recovery Resource Mobilization Factor	40%		
Response Planning Volume Calculation			
On-Water Recovery Volume (bbls)	375,000		
Shoreline Recovery Volume (bbls)	375,000		
Shoreline Cleanup Volume (bbls)	750,000		
	Tier 1	Tier 2	Tier 3
On-Water Recovery Cpcty (bbls/day)	112,500	187,500	300,000
Shallow Water Resp Cpblty (bbls/day)	22,500	37,500	60,000
Storage Capacity (bbls/day)	225,000	375,000	600,000
On-Water Response Caps (bbls/day)	12,500	25,000	50,000
Additional Response Req'd (bbls/day)	100,000	162,500	250,000
Response Time (hrs)	6	30	54

### Galveston Bay Refinery Response Planning Volume Calculations

Location Data	
Location Type	Nearshore/Inland
Port Type	High Volume Port
WCD Product Type	Distillates
Product Group	4
Capacity of the Largest Single Tank (bbls)	80,000

Discharge Volumes/Calculations	
Average Most Probable or Small Discharge (bbls)	50
Maximum Most Probable or Medium Discharge (bbls)	857
<b>Worst Case Discharge - Based on EPA criteria (bbls)</b>	<b>80,000</b>
EPA WCD Calculation: 100% * Capacity of the Largest Single Tank	

Selected Calculation Factors (Based on EPA Tables)	
Removal Capacity Planning Volume - Percent Natural Dissipation	10%
Removal Capacity Planning Volume - Percent Recovered Floating Oil	50%
Removal Capacity Planning Volume - Percent Oil Onshore	70%
Emulsification Factor	1.4
Tier 1 - On Water Oil Recovery Resource Mobilization Factor	15%
Tier 2 - On Water Oil Recovery Resource Mobilization Factor	25%
Tier 3 - On Water Oil Recovery Resource Mobilization Factor	40%

Response Planning Volume Calculation	
On-Water Recovery Volume (bbls)	40,000
Shoreline Recovery Volume (bbls)	56,000
Shoreline Cleanup Volume (bbls)	78,400
	</

### B.3 RESPONSE CAPABILITY SCENARIOS

The occurrence of a Small, Medium or Worst Case Discharge could be the result of any number of scenarios at the Facility including:

- Tank overfill and/or failure.
- Piping line, valve, or flange leak and/or rupture.
- Tank truck and/or tank car loading overfill and/or failure.
- Explosion or fire.
- Equipment failure (e.g. pumping system failure, relief valve failure, or other general equipment relevant to operational activities associated with internal or external facility transfers).

Events and conditions that pose a substantial threat of a worst case discharge might include:

- Tank and associated piping fire.
- Catastrophic tank shell failure.
- Hurricane and/ tornado induced tank shell or major piping failure.

A sudden release of tank contents due to the above potential threats could result in a breach of the tank basin secondary containment.

Actions to prevent or mitigate a worst case discharge due to the above potential threats include:

- Periodic inspection of the tank to confirm integrity.
- Periodic inspection of the tank basin secondary containment to confirm integrity.
- Preventive maintenance as appropriate of the tank and associated piping.
- Training of facility personnel on the proper procedures in event of a natural disaster to minimize the potential impact.

The response actions to each of these scenarios are outlined in Section 3.1 and Figures 3.1 through 3.4. The response resources, including detail on equipment and manpower, are identified in Appendix A. Facility response personnel list/telephone numbers and other internal/external resources telephone numbers are detailed in Figures 2.1, 2.2 and 2.5 through 2.7.

## RESPONSE CAPABILITY SCENARIOS

### *Small Discharge = 50 Bbls (EPA)*

A small discharge at this Facility is considered to be a discharge that does not exceed 50 barrels (2,100 gallons).

This size discharge would most likely occur due to minor equipment failures or human error. Examples may include, but not limited to,

- Pump seal leak
- Transfer operations
- Valve leak
- Container rupture
- Storage spill.

A discharge of this size could occur from leaking piping outside containment or a transfer operation and most likely would be a refined product.

This size discharge would likely be noticed quickly and appropriate clean up measures taken. These types of small spills are typically contained on the grounds of the Facility (earthen material or concrete).

Several steps can be taken to limit the number of occurrences and the amount of discharges. In particular, employees receive training periodically on proper transfer procedures. In addition, preventive maintenance of equipment is performed at regularly scheduled intervals to ensure that any weaknesses are discovered. Also, old or worn parts are replaced as needed.

Such discharges are likely contained by the Facility's drainage system.

The closest body of water is the Barge Canal and Galveston Bay, less than one-quarter mile east southeast of the Facility. Proximity to industrial water intakes, fish and wildlife and sensitive environments are discussed in Section 6.5 and Figure 6.2. In that event, transfer operations would cease and containment/recovery operations initiated as appropriate.

**RESPONSE CAPABILITY SCENARIOS (Cont'd)****Small Discharge = 50 Bbls (EPA)**

The Facility shall identify sufficient resources, by contract or other approved means, to respond to a Small Discharge. The response resources shall, as appropriate, include:

- 1,000' of containment boom and a means of deploying it within one (1) hour of the discovery of a spill.
- Oil recovery devices with an effective daily recovery capacity (50 bbls/day) equal to the amount of oil discharged in a *Small Discharge* which is available at the Facility within two (2) hours of the detection of an oil discharge.
- Oil storage capacity (100 bbls) for recovered oily material equivalent to twice the effective daily recovery rate.

***Facility Response Resources/Capability***

The Facility will respond to a ***Small Discharge*** with the manpower detailed in Figure 2.1 as well as local contract resources as detailed in Figure 2.2 and Appendix A.

- A 50 Bbl discharge typically will not escape containment or drainage system of the Facility.
- If a fifty (50) barrel discharge escaped the Facility, it would more than likely occur from aboveground pipelines in undiked areas.
- Facility Management would immediately be notified and the situation would be assessed.
- As appropriate, the OSRO will deploy containment boom.
- Responders will close boom around product and place sorbent boom along shoreline and pads inside boom to remove sheen.
- Responders will then begin recovery of contaminated sorbent materials and accumulate these in containers for later disposal.
- The worst probable chain reaction to a spill of this type would be fire, high wind and/or heavy rain.
- Oil containment and recovery devices with a minimum effective daily recovery capacity of 50 Bbls will be implemented, as the situation demands.
- A minimum of 100 Bbls of oil storage capacity for recovered oily material can be secured from contractor resources or made available within the Facility's storage facilities, as the situation demands.
- Additional recovery and storage equipment could be made available from contract resources, as the situation demands.

**RESPONSE CAPABILITY SCENARIOS (Cont'd)****Small = 50 Bbls (EPA)****Notes:**

- Equipment and personnel resources are detailed in Section 4.0 and Appendix A.
- Telephone notification and contact references are provided in Figures 2.1 and 2.2.



**RESPONSE CAPABILITY SCENARIOS (Cont'd)****Medium Discharge = 857 Bbls (EPA)**

A medium discharge at this Facility is considered to be a discharge that does not exceed 857 barrels (36,000 gallons).

This size discharge would most likely occur due to a major equipment failure or during product transfer. Examples may include, but not limited to,

- Line or flange rupture
- Valve rupture
- Tank failure
- Tank or truck overfill
- Pipeline manifold rupture.

Spills of this size would most likely be refined products. Because of dikes, berms and other containment located throughout the Facility, it is very unlikely that the discharge would leave the Facility property or reach a navigable waterway before spill containment could begin. The spilled material would more than likely collect in recovery or facility drainage system. If a spill of this size escaped the property it would travel south southwest to Galveston Bay. Adverse weather conditions would increase the chances of a discharge entering the Bay.

Several steps can be taken to limit the number of occurrences and the amount of discharges. In particular, employees receive training periodically on the proper procedures for transfers to and from tanks (e.g. proper tank gauging procedures). This training includes what to do in the event of an unusual occurrence such as equipment rupture.

In addition, preventive maintenance of equipment is performed at regularly scheduled intervals to ensure that any weaknesses are discovered. Old or worn parts are replaced as needed.

The closest water is the Barge Canal and Galveston Bay (See Figure 6.2) so the potential for a spill of this size reaching water does exist. The immediate vicinity is industrial and damage to ecologically sensitive habitats, recreational areas, etc., that are close, could be possible. Finally, the most likely chain reaction of failure would be human error in conjunction with a heavy rain event and/or fire. Proximity to industrial water intakes, fish and wildlife and sensitive environments are discussed in Section 6.5 and Figure 6.2.

## RESPONSE CAPABILITY SCENARIOS (Cont'd)

### Medium Discharge = 857 Bbls (EPA)

The Facility shall identify sufficient response resources, by contract or other approved means, to respond to a Medium Discharge. The response resources shall, as appropriate, include:

- Oil recovery devices with an effective daily recovery capacity equal to 50% of the *Medium Discharge* volume that is capable of arriving on scene within 6 hours.
- Sufficient quantity of containment boom must arrive within 6 hours for oil collection and containment and for protection of fish and wildlife and sensitive environments, as appropriate.
- Temporary storage capacity equal to twice the daily recovery capacity.

#### ***Facility Response Resources/Capability***

The Facility will initially respond to a ***Medium Discharge*** with a similar response to the Small Discharge. Additional response resources will be activated from an Oil Spill Removal Organization(s) (OSRO) as detailed in Figure 2.2 and Appendix A and will arrive within 6 hours.

- All resources shall be capable of arriving at the Facility within the applicable response tier requirements (Tier 1 = 6 hours; Tier 2 = 30 hours; Tier 3 = 54 hours).
- Oil recovery devices with an effective daily recovery capacity of 428 Bbls (50% of the Medium Discharge volume) secured from the OSRO(s) will be on scene within 6 hours.
- 857 Bbls of oil storage capacity for recovered oily material will be secured from the OSRO(s) and/or made available within the Facility's storage facilities.
- Containment boom for oil collection and containment and for protection of fish and wildlife and sensitive areas will be secured from the OSRO(s) in the event that the spill escapes the boundaries of the Facility and impacts Galveston Bay.

#### ***Notes:***

- Equipment and personnel resources are detailed in Section 4.0 and Appendix A.
- Telephone notification and contact references are provided in Figures 2.1 and 2.2.
- Spill response personnel, including Facility members, are continually trained to respond to medium discharges through regularly scheduled tabletop exercises, discharge prevention/safety meetings, ICP reviews, HAZWOPER training, and other PREP training.

**RESPONSE CAPABILITY SCENARIOS (Cont'd)****EPA Worst Case Discharge = 750,000 Bbls**

A worst case discharge at this Facility is considered to be a discharge that does not exceed 750,000 barrels (31,500,000 gallons) crude oil from Tank 1053.

This size discharge would most likely occur due to a natural disaster or catastrophic event. Examples may include, but not be limited to,

- Tank and associated pipeline fire
- Catastrophic tank shell failure
- Hurricane-induced spills
- Tornado-induced spills
- Pipeline manifold rupture.

Diking and containment areas are located throughout the Facility. For a discharge this size to reach a waterway, or leave the Facility property, diking would have to be damaged or destroyed (breached).

For a worst case discharge caused by a natural disaster, preparedness is more appropriate than prevention. The Facility employees receive training periodically on the proper procedures to deal with a natural disaster. In addition, preventive maintenance of tanks is performed at regularly scheduled intervals (to ensure that any weaknesses are discovered).

Severe rain events, hurricanes, and associated flooding would increase the chances of a spill leaving the property. Severe weather of this type could also negatively affect the response times of response contractors and other responders.

Probable chain reactions of failures would be fire and / or induced by the weather conditions. They would include, but not be limited to, failure of secondary containment, the drainage system, and discharges of more than one product.

Calculation of the planning distance for a worst case discharge is provided at the end of Appendix B.

**RESPONSE CAPABILITY SCENARIOS (Cont'd)****EPA Worst Case Discharge = 750,000 Bbls (Cont'd)**

In the event of a tank rupture, the product may splash over the dike wall, bypass the Facility drainage system, and enter Galveston Bay that is located less than one-quarter mile east southeast of the Facility.

Facility responders or oil spill response organizations (OSROs), under contract with the Facility, will deploy boom as conditions dictate. Areas that could potentially be impacted by the spill and associated response activities are identified in Section 6.0.

The Facility shall identify sufficient response resources, by contract or other approved means, to respond to a worst case discharge to the maximum extent practicable. The response resources shall, as appropriate, include:

- Oil recovery devices with an effective daily recovery capacity equal to the lesser of the WCD Response Planning Volume Calculation or the response caps. If the daily recovery rate exceeds the applicable contracting caps (see EPA Tables in this Appendix) then the Facility must identify additional resources equal to twice the cap or the amount necessary to reach the calculated planning volume.
- Temporary storage capacity equal to twice the daily recovery capacity.
- At least 20% of the on-water response equipment should be capable of operating in water of 6 feet or less depth.
- Containment boom for oil collection and containment and for protection of areas of environmental sensitivity or economic importance.
- Identify resources capable of responding to a shoreline clean-up operation involving the calculated volume of oil and emulsified oil that might impact the affected shoreline.
- The above Response Planning Volume requirements, including response times, are based on Attachment E-1 of Appendix E to 40 CFR Part 112.

***Facility Response Resources/Capability***

The Facility will respond to a Worst Case Discharge (WCD) initially with a similar response as identified for a Small or Medium Discharge. Facility Management will initiate "immediate response actions" located in Section 3.0 immediately upon discovering a spill. Additional OSRO(s) will be activated as the situation demands. The response resources will be capable of arriving within the required response tiers and will include:

- Oil recovery devices with an effective daily recovery capacity equal to the lesser of the WCD Response Planning Volume Calculations (located in this Appendix) or the response caps will be secured from the OSRO(s). Any amount in excess of the required caps will be contracted for and responded to as part of the same response effort.

**RESPONSE CAPABILITY SCENARIOS (Cont'd)****EPA Worst Case Discharge = 750,000 Bbls (Cont'd)*****Facility Response Resources/Capability (Cont'd)***

- Temporary storage capacity equal to twice the daily recovery capacity will be secured from OSRO(s), other Company resources, or made available within the Facility's storage facilities.
- At least 20% of the on-water response equipment secured from the OSRO(s) and other Company resources will be capable of operating in water of 6 feet or less depth.
- Containment boom for oil collection and containment and for protection of fish and wildlife and sensitive environments and socio-economic sensitivities will be secured from the OSRO(s) and other Company resources, if available.
- Resources capable of responding to a shoreline clean-up operation involving the calculated volume of oil and emulsified oil that might impact the shoreline will be secured from the OSRO(s).
- Overall response operations will be conducted under the Incident Command System with adequate Facility and Contract Response personnel to continue operations for a minimum of seven (7) days.
- The local fire department will provide support for fires at the Facility.

***Notes:***

- Equipment and personnel resources are detailed in Section 4.0 and Appendix A.
- Telephone notification and contact references are provided in Figures 2.1 and 2.2.

## B.4 PLANNING DISTANCE CALCULATION

The planning distance is calculated to evaluate whether the Facility is located at a distance such that a discharge could cause injury to fish and wildlife and sensitive environments or disrupt operations at a public drinking water intake [40 CFR 112, Attachment C-III]. The Site is located adjacent to Galveston Bay in Texas City, Texas.

Galveston Bay is tidally influenced. For persistent oils (e.g., crude oil) discharged into tidal waters, the planning distance is 15 miles from the Facility (ebb and flood tide).

### **Planning Distance Calculation** ***“Oil Transport on Tidal-Influence Areas”***

- Persistent oils- planning distance= 15 miles ebb and flood tide.

## APPENDIX C

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### HAZARD EVALUATION

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Day-to-Day Operations	
Secondary Containment Drainage	
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## HAZARD EVALUATION

### C.1 HAZARD IDENTIFICATION

#### ***Loading / Unloading of Transportation Vehicles***

Transfer of oil products occur at various locations at the Site. Potential spills from loading and unloading operations will go to the drainage system. The drainage systems are designed to contain and control any potential spills greater than the size of the largest single compartment of trucks loaded or unloaded at the Site.

#### ***Day-to-Day Operations***

The day-to-day operations at the Site that may present a risk of discharging oil or releasing a hazardous substance are:

- Loading/unloading operations.
- Pipeline transfer operations.

The Site has a daily production capacity of 10 million gallons of gasoline products.

- Maintenance operations.

Work such as piping replacement/repair is rare and would only be done on portions of the system that are isolated from the active system.

#### ***Secondary Containment Drainage***

The Refinery's Outside and Inside Sewers Process Boundary Limits flow into the Wastewater Treatment Plant (WWTP). The WWTP processes the water prior to discharge via a Texas Pollution Discharge Elimination (TPDES) permitted outfall. Besides spill prevention measures in-place to provide for appropriate containment and/or diversionary structures or equipment to prevent discharged oil and other hazardous liquids from reaching a navigable water course, the Texas City Hurricane Levee physically separates the Refinery from Galveston Bay.

The levee is a man-made dike constructed to protect Texas City from hurricane tidal surges as well as controlling flooding of the City from normal rains due to ground subsidence. Rainwater drains into the "borrow pit" that is a contained water collection reservoir. During normal operations, the water is pumped from the "borrow pit" over the levee via the levee pump station. Only through this pump could oil enter Galveston Bay.



## C.1 HAZARD IDENTIFICATION (Cont'd)

### *Security*

The Site is operated continuously, 24 hours per day, seven days a week. All perimeter boundaries are enclosed by a chain link fence. All visitors are required to sign in. Guards are on duty 24 hours per day.

The Site operates under a Facility Security Plan.

All operational areas are sufficiently illuminated to meet OSHA standards, allow detection of spills, and to discourage vandalism.

### *Hazard Identification Tanks*

Personnel are trained under the SPCC Plan to recognize spills and report discharges to the appropriate supervision. Where tanks are equipped with high level alarms, the liquid level sensing devices are regularly tested and maintained to ensure proper operation. (See Sec. 5.1 for more details). Storage tank overflow is also prevented by operational precautions during transfer operations.

Material Safety Data Sheets (MSDSs) for the petroleum products are maintained at the Site to inform employees about the hazardous chemicals to which they may be exposed on the job. Although the petroleum products present a variety of hazards, some generalities can be made concerning their effects. The primary hazards with these materials are fires and explosions. Petroleum products can also cause immediate and long-term health effects, if improperly handled. Every precaution is taken to: prevent the discharge of petroleum products at the Facility; prevent safety and environmental impacts; and reduce the loss of revenues associated with the lost product.

## C.2 ANALYSIS OF THE POTENTIAL FOR A SPILL

The potential for a spill is present but unlikely. The probability of a tank failure for a single-wall storage tank is  $1.0 \times 10^{-4}$ /tank-year (U.S. DOT, FEMA, and U.S. EPA Handbook of Chemical Hazard Analysis Procedures.) The Facility has 371 bulk storage containers that gives a potential spill frequency of 0.0371 spill/year.

### *Horizontal Range of a Spill*

Secondary containment dikes at the Facility will in most cases prevent the horizontal migration of a spill. Attenuations of any spilled material that might escape a diked area would be accomplished through the implementation of spill response activities by: (1) Facility personnel, or if necessary, (2) the spill response contractor listed in this Plan.

## C.2 ANALYSIS OF THE POTENTIAL FOR A SPILL (Cont'd)

### *Vulnerability to a Natural Disaster*

All storage tanks and ancillary piping are fabricated in compliance with rigorous nationally recognized design specifications. The specifications include wind-load allowances (must withstand minimum 100 mph wind) and recognition of any applicable seismic considerations. These factors minimize the risk of vulnerability to natural disasters, including hurricanes.

In addition to the above referenced factors, it should also be noted that Facility inspection and response drills, as well as Standard Operating Procedures (SOPs) contribute to minimization of spill potential at the Facility.

### *Other Factors*

Other factors such as unstable soils, earthquake zones, Karst topography, etc. are not of concern to this Facility.

## C.3 REPORTABLE OIL SPILL HISTORY

NRC Reports subject to OPA 90 regulations as of the publication date of this Plan are summarized in the following table. Details obtained from Incident Reports are maintained on-site.

The reports contain the below listed information to the extent that such information is reasonably identifiable.

- Date of discharge.
- Location of discharge.
- Discharge cause(s)
- Material(s) discharged.
- Amount discharged.
- Amount of discharge that reached navigable waters.
- Amount recovered.
- Effectiveness and capacity of secondary containment.
- Clean-up actions taken.
- Steps taken to reduce possibility of recurrence.
- Total storage capacity of the tank(s) or impoundment(s) from which the material discharged.
- Enforcement actions.
- Effectiveness of monitoring equipment.
- Description of how spill was detected.

**TABLE C-1**

**REPORTABLE SPILL HISTORY**

## Section 1.4.3 Analysis of the Potential for an Oil Spill

### OU SpUI History

The following table is a history of oil spills at the Texas City Refinery from 1991 through 1998. Located on the Texas Gulf Coast, the site is vulnerable to natural disaster from hurricane conditions and the accompanying flooding and wind. The site "Hurricane Preparedness Program" is designed to minimize damage and harm to people, equipment, and tanks from these conditions.

Given the spill history at the site, probability for minor oil spill, contained within the plant is high. Probability of a major oil spill is much lower. Level of impact to the environment outside the refinery is extremely low because even major spills are contained within the plant and remediated immediately.

DAD	MM'ZIUAL/QTr	LOCAR%011	CAUSB	ACTION
0t/12/91	Recycle oil/5 bbl.	rk 600 rtr-all	Firewall drain plu99ed, backed up	Oil recycled/Soil R.-diated
01/15/t1	Naptha/20 bbb	Ln 60t	Repair clog leaJr.ed	Oil Recycled/Soil ka.edlated
10/04/J1	Recycle oil/10 bbla	rk 11t/140 rtr:evatl	Ctrl Valve Halfunctlon	Boll Re.ediated
10/22/11	Recycle Oil/59al	rt 600 nr:-au	Flr-all drain plUCJved, backed up	Oil Recycled/Soli R.-.diated
11/0'J/U	Recycle Oil/10 bbl.	Tk 1010 Flcevall	Sewer backup thr:u open drain	SoU Relftdlated
U/11/t1	Refo te/50 bbla	Tk t Flr:-.11	Overflow due to faulty 9&UCJe	Oil Racycled/Soil Reaedlated
01/02/tz	Recycle Oil/10 9al	SludCJe Deoll.lftcJ Unit	Trucll lUted box, apllhd ou	SOU R-.dlatecl
01/22/tz	Gaaollne/50 bbl.	Ln au t cat. 1	Leak dur:lng tle-ln	Oil Recycled/Soil Reeedlated
0Z/01/tz	Gaaollne/100 bbla	Tk 31 Fl.nvall	opentor Er:r:or:	Oil Recycled/Boll Re.ediated
02/11/1t	Gaa Oil/6 9al	Oocka	Hoae Rupture	Oil Recovered and recycled
02/20/tz	C.. Oil/10 bbl.	Ptaap F-133	Caae drain opened on pu.p	SoU Re.adlated
0S/01/tz	Recycle oil/1 bbla	Tk 1010, Ln 421-1	a.ket Leak	SoURemedlated
05/21/JZ	Recycle Oil/42 bbla	Tk 1046 Flr:evall	Sewer: backup thr:u open dr:aln	Oil Recycled/Soil Re lated
06/24/t:Z	Dleael/4400 bbla	Tit U Flr-all	Overflow due to faulty 9aU9e	Oil Recycled/Boll Re-.dlated
01/14/tz	Cr:ude oil/19al	Docka	Repair to aut.o-•a ler	Oil r:ecover:ed and recycled
01/14/12	Gaaollne/3 9al	Dock J1	Gaaket FaUuce	Oil recover:ed and r:ecycled
01/27/tz	HTDF/20 9d	Tt 1024	Overfilled vacuu. tr:uck	Boll r:elledlated
0tizi/92	Crude oil/10 bbla	Tk 1023	Llne Leak	SoU r:e.edlated
10/06/tz	Gaa oil/2 9al	Doc:J1 31	Hoae ruptured dur:lnv teat	Oil recovered and recycled
10/01/JZ	Guollne/1 9al	Dock 11	Llne Leak	Oil recovered and recycled
11/10/tz	Naptha/ 0 bbl.	Line 'Ot, nu	Llne Leak	Oil Recyc:led/Soil Reaedlated
11/U/tz	Dieael/50 bbla	Tk 41	Llne Leak	Oil Recycled/Boll Remedlated
11/18/t2	Naptha/220 bbla	Tk 110	OYer:flov due to faulty 9auve	Oil Recyc:led/SOll Reaedlated
11/27/t2	Recycle Oil/12 bbla	ft:al Z	Hot. pr:duat waporl&ed tbcu ••ala	Oil Recycled/SoU Jt...cllated
04/15/t1	12 fuel oil/42 Gel	Dock .32	Lin. Leak	Llne repair:ed, oil recovered
04/21/t3	Gaa Oil/10 bbla	North Yk 4000	Plnhol. leak on llne No. 10	Oil r:cover:ed/Soil r:..dlated
0S/15/t3	Crude oil/6 Gal	Dock 32	a.ttet lealt	Llne repelred, oil r:ecovered
01/15,3	Recycle oil/11 bbl.	Nell.	Pinhole leak on llne No. 101	Oil recycled/Soil reaedlated
01/02/U	Crude oil/5 bbla	Doclt.	Check valve failure, backflow	Oil r:ecovered and .recycled
01/20/U	FUrname oil/12 bbla	Tk 57	Hoae ruptured dur:lnv unloadn9	Oil recovered/Soli reenedlated
01/31/t1	Crude oU/2 9al	Dock 31	tank cocro•lon	Llne r:epalced, oil recovered
0t/10/t1	Qaa Oil/10 9al	Doaka	Llne leak on auep pu.p dl•charve	Llne r:epalr:ed, oil r:ecover:ed
10/21/t3	Naptha/1 bbla	Tk 35	Llne leak/cocr:oon	Llne cepalr:ed, oil r:ecovered
LOIU/U	FUrname oil/5 val	Llne I	Llne leak on Line 60t	Llne r:epalr:ed, oil r:ecover:ed
11/05/U	Crude oil/31 bbla	'l'ank .fa.ca	Llne leak	Tank rapelr:ed, .oll re.adlated
11/01/13	Crude oil/4 9al	Doc:b	Tank foundation leak	Oil recovered and r:ecycled
U/14/t1	Keroaene/50 bbla	DDU	Spilled cleanln9 atralner: on •• lee	Oil recycled/Boll r:..dlated
01/161"	Decanted oil/3 9al	Dock 31	Unit. up•et, Flare KO Dr:u. overflow	Oil recover:ed and r:ecycled
03/25/t4	Decanted oil/10 bbla	T-2pUIIIp	Raln over:fl-ed aUIIp	Oil cecover:ed/8oll r..edlated
			operator: ecr:or	

OU Spill History

ts-005	No	OMCC MARINE	1111115	DOCK 31 a.t.tuwn heel put- 3 g llona of .....olin Wiler O 38.TlleChartettown hid - aJlaItNIP0IIIIIIII for lthe ...end hid .....the CoatOUud nd caled omer Efwlroi Mral for CIMn up. Payne was juSt Cllng - courtesy,	Barge	Bunk.- 01 3pillonl	Not-Amoco Sp
95-G07	No	W3	119195	IHK deuel ;:ed 8t 30il.	Line	1,218 lbt fulll'8nge nephlihi	System WU lsOin ,.....
95-13	No	OMCCW	212195	Line 830 Inked In FW of TK1011. Une con181Md 1111ol. (IMa....5B8LSRQ)	Line	0..ol 2 BBt.8 to ground	
95-14	No	OMCCW	7J8I95	lined 830 lalbd Inllde FWTK 1011	Line	0..ol LESS THAN 5 BBLs	Line ..out of lf8rv ,.nd.
85Q23	Ya	COKERB	318195	COKER& h from coklrb plugged dae to. folniCMI11tlilch occurred while stnm ID lhl dnm. lhl plugged h ....._In of cab drum. Rlloopened.	RellefviMt	Oa01e0DlrnlII (C12 plu8 mltilltlI) In form o/ Dnlplell	llnniiiRilllfj Slop Into the dnm pnt Ufe.
95-043	No	OMCCW	31231'95	TANK 28 L8lb Inlink m.lold. buc:k8ts under lub lplled over ID 101.	Tenk.ft' Miold	8l8dt Dye9aflana	R..._lr8d Inks
95444	No	OMCCW	3123195	TANK 1055 .,.,. leak within blnk fhwaft lelked ollo IOlInd water.	Pipe	Cnlcfcol	Plugged IHk.nd I delnUp.
95-053	Ya	OMCCW	4(7195	Tlnk 1100Yefftow	Tenk	Neptllhe ao aas	P...product out "***-overflow
95-54	No	W3	<4/11195	A leak of light hydracarbhone developed on 305- CA llrpper tower Ofitle8d •lr cooler.	stripper COWer air cooler	...,wtlllate'Y eO.,. Of hydroc:albonl emllled ID lti'IIOiphent (lela thin repo teble qof 100l>e): 03-21... C4-20b C 71bs C8-71bs H28- 1lb (lela lhlIn rwportible qventty Of 100lbs).	Dtscontinued star Isolated leak.



## Oil Spill History

Incident No.	Is it a spill?	Unit	Date	Description	Equipment	Quantity	Location	Remarks
95-057	No	ULC	4/18/95	Liquid HC's from high pressure separator spilled to concrete 2-3 BBLs.	OWS	Liquid HC's spill to concrete 2 to 3 BBLs	Getting vacuum truck to clean-up.	
95-058	No	COKER A	4/18/95	COKER A During pressure test of coker A, 101 B drum, RV popped sending oil to the ground. 101B inactive drum oil from outlet of RV.	Relief valve	HVY Oil 2 BBLs to asphalt, some droplets to employee parking lot	Cleaned up with sand. Oil did hit some cars in the refinery parking lot.	Check RV's.
95-065	No	OMCC W	4/23/95	Ecova was using a tamp. pump at TK 1052. Some of the diesel used to run pump leaked onto ground. Ecova reported incident to PS&C. PS&C subsequently reported it to OMCC.	Tank-pump	diesel 1 BBL		
95-066	No	POWER 3	4/24/95	Performing major overhaul of gas turbine 307E. Machine was down when its lube oil line developed a leak. Lube oil to concrete floor then to sewer. (307 E is inside a bldg.	Line	Lube Oil #46-400 gallons	Immediately shutdown lube oil pumps via motor control centers.	Proper unit shut down procedures will be reviewed with operations personnel.
95-069	No	OMCC W	4/26/95	Leak discovered on line at TK 53. Some of soil is reported to be discolored from leak	Line	Distillate > 5 BBLs	Blocked in line and drain.	Fixed leak.
95-070	No	OMCC W	4/27/95	The tank 138 was overfilled, resulting in the spill.	Tank	Heavy Slop	the product was contained in TK firewall and collected by a vacuum truck. The contaminated soil will be tested to determine the waste classification and appropriate actions will be taken.	
95-084	No	MTN	5/18/95	YARD 11 Oil leaked from equipment being moved	Equipment	Oil 1 gallon	Cleaning equipment	
95-085	No	OMCC W	5/19/95	TANK 1051 Pipe Leak	Tank-pipe	Gas Oil 1/2 BBL	Isolated leak.	
95-086	No	ENV FAC	5/19/95	Pump seal leak. LIFT STAT.	Pump seal	Lube Oil 2 gallons	Isolate pump and inspecting pump vacuuming up spill.	
95-089	No	OMCC W	5/18/95	TANK 13/14 Line 387A Clamp leak	Line-Clamp	Naphtha 1/2 bbl	Replace rubber on clamp	
95-090	No	OMCC W	5/18/95	TANK 73 Bottom leak	Tank	Ultracrackate 3 BBLs	Put water into tank to form water bottom and then pumped tank down.	
95-092	No	OMCC W	5/23/95	Line 166 Leak	Line	Oil 2 gallons	Investigating clamp	
95-093	No	OMCC W	5/25/95	TANK 20 Pinhole leak in tank bottom	Tank	LUF LESS THAN 1 bbl	Taking out of service to repair bottoms	
95-095	No	OMCC MARINE	5/28/95	DOCK 33 During the process of unloading, a leak developed on the side wall of hold #2 under the water line which resulted in a spill to water. Higman Towing Co. barge HTC01802. Leak was on port side.	Barge	Clam Lake Crude Oil 1/2 bbl	Immediately hooked up to offload oil out of the hold. Garner Environmental cleanup.	



## Oil Spill History

INCIDENT NO	UNIT	DATE	EXPLANATION	EQUIPMENT	CONTAMINANTS	MEASURES TO BE TAKEN	STATUS	
95-096	Yes	RFM CATALYST WHS	5/29/95	Roll-off top was not tightened down causing rain to leak into box. Bottom of box was not water tight therefore contaminated liquid leaked out.	Roll-off Box	DO18 Benzene 2 BBLS	Roll-off box was covered to prevent further rain from leaking into box. Ecova was called to build boom to contain leak to remediate.	
95-099	No	OMCC W	6/4/95	TK55 FW Operator found puddle of oil while making rounds.	Tank FW	Furnace Oil - < 1 BBL	Will remove contaminated soil and repair leak.	
95-101	No	ISOM	6/7/95	Pump diaphragm failed causing carbon tetrachloride.	Pump	5-10 gallons carbon tetrachloride.		
95-105	Yes	OMCC W	6/13/95	LINE 164 LS-2 Erosion caused a hole in pipe.	Line	LUC/Light Ultraformer Crackate > 5 BBLS	The line was blocked in and depressured. The line was excavated and is being repaired temporarily (clamped), while a new line section is being fabricated for replacement. The soil was remediated during excavation of the leak.	
95-108	Yes	OMCC	6/14/95	LINE 725 West Pipe Rack South of UU3 A sandblasting contractor had blasting line entangled around pipe nipple. The contractor pulled the line with power equipment and broke the pipe nipple.	Line-pipe nipple	Toluene > 3 BBLS	The line was blocked in and depressured. The line was excavated and is being repaired temporarily (clamped), while a new line section is being fabricated for replacement. The soil was remediated during excavation of the leak.	
95-109	No	OMCC MARINE	6/8/95	LN 800 Pinhole leak	Line			
95-111	Yes	OMCC 2	6/16/95	Underground line leak ( SE of Aiky - 2 , NE of cooling tower) probable cause - corrosion.	Line	Sulfuric Acid - 3,000 lbs	The line was blocked in and depressured. Soda ash was applied to neutralize product and soil. The contaminated soil was then removed and will be sent to the Land Treatment Facility. The line is to be excavated and repaired. The line is to be repaired by July 14th, 1995.	
95-119	Yes	POWER 3	6/23/95	Inadvertent discharge through open drain. T-2	Drain	MEA (Rich) - 50.8#	Maintenance had been performed on a liquid knock-out drum. After completion of the maintenance the drum was returned to service. During this process the release occurred.	



## Oil Spill History

INCIDENT NO	CHARGED PARTY	INT	DATE	DESCRIPTION	EQUIPMENT	QUANTITY	MEASURES
95-130	Yes	OMCC W	6/30/95	Due to heavy rains oil backed into firewall from sewer drain (TK 501, 502, 503, 504, 1043, and 1044).	Sewer	Oil Water > 5 BBLS Approximately 20 BBLS	Garner & AllWast Soil remediation
95-137	No	OMCC MARINE	6/27/95	DOCK 54 Dock sample valve leaking through. T-head drain was partially plugged.	Sample valve	Light Aromatics - 1 gallon	Blocked in sample
95-140	No	SRU	7/15/95	T-10 contactor developed leak. Leaked into concrete and was washed to sewer.	Contactor	Amine - 30 gallons	Took contactor out
95-155	Yes	OMCC MARINE	8/8/95	DOCK 55 Improperly installed clamp on existing repair. Line-11 developed a pin hole leak due to corrosion. A clamp was installed for a temporary repair. After loading a barge, the line pressured up due to sun pressure and a leak occurred at the clamp.	Line-Clamp	Benzene < 5 gallons ~ 1 gallon entered the water.	The area was immediately boomed off and a was dispatched to clean up. The oil remediated.
95-163	No	OMCC W	8/31/95	TANK 80 Sample pump packing leaking	Tank-pump	Hexane 5 gallons	Packing replaced
95-165	No	Outside Utilities	8/31/95	TIPCO Blasted hole in line while sand blasting line. (South ULC Ave F. @ 2000S- Acid line header)	Line	50 gallons	21ddpumpa, 811 ....aulh ollnu. opened lineD IA.T atortgell(eo =: sprue eode •hon
95-170	No	OMCC W	9/10/95	Leak in Line 951 at Tank 16	Line	HVY CAT NAPHTHA (HVY CAT GASOLINE) - 2-3 BBLS	Blender. closed line on tlnb •nd pumped liquid from line with F-32 pwnp excavated lllllk lnd hidncwrn truck cantnuoally suclng up eccumutating liquid.
95-171	No	OMCC MARINE	9/11/95	Sabine barge Antigone developed a leak while loading gasoline. Estimate 5 gallons of gasoline leaked to water. Sabine taking care of cleanup.	Barge	Gasoline - 5 gallons	
95-172	No	OMCC MARINE	9/15/95	LINE 8 Due to repair work performed, a bull plug was left out of an open line.	Line-bull plug	Oil spray to concrete.	A line wash was sprayed out.
95-175	No	ARU	9/17/95	Blew seal on Sulfolane pump > 5 BBLS to sewer.	Pump seal	> 5 BBLS Sulfolane to sewer No release to soil	Blocked pump in
95-179	No	ALKY 3	9/23/95	Dumped to ground, ran off of pad.	Spill to ground	Sulfuric Acid ~ 25 gallons CRQ 1000 lbs/65 gtons)	Bagged sewer and

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# Oil History

## Section 1.4.3 Analysis. Potential for an Oil Spill

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INCIDENT NO.	CHARGED PROPERTY	UNIT	DATE	EXPLANATION	EQUIPMENT	COLEGEY/IN	MEASURES TO MINIMIZE	MEASURES TO PREVENT
95-182	No	OMCC W	9/25/95	LINE LEAK AVE F North of AU2A small leak was discovered on an underground road crossing.	Line	Small naphtha leak < 1 BBL	Excavate and locate the leak	Repaired leak.
95-183	No	CFHU	9/25/95	Line leak sprayed LVGO over road and gravel	Line	LVGO < 5 BBLS Less Than 5 BBL RQ	Blocked in line . Sprayed with water, washed to local drain.	Repaired leak.
95-185	No	CFHU	9/29/95	BFI Truck hauling CFHU catalyst to Anahuac ran into a barrier East of ground flare; knocked out drum. It punctured the gasoline tank. Area East of CFHU Ground Flare	Truck	Gasoline 2 gallons	A bucket was placed under the tank and a vacuum truck sucked the remainder of the fuel tank.	
95-186	No	OMCC W	10/2/95	Main dock line from refinery (line 9A). Flange gasket blew out when pressured up. This 16" line was immediately blocked in and depressured to replace gasket.	Line-Flange; gasket	Amoco silver gasoline ~ 2 BBLS	Blocked in line. Put barrel under leak. Vacuum truck called out.	Replaced flange gasket
95-190	No	OMCC W	10/7/95	Oil on TK 139 and 140 (Slop tanks south side) Sewer had not drained well.	Tank	< 2 BBLS along soil (Less than RQ of 5 BBLS)		
95-191	Yes	OMCC MARINE	10/8/95	DOCK 54 Hydraulic hose fitting ruptured due to external corrosion.	Hose	Hydraulic Fluid < 1 gallon, ~ one quart entered the water (BAY).	The hydraulic hose and fitting was replaced. Garner Environmental Services was immediately notified to clean water surface.	
95-194	No	CFHU	10/10/95	Equipment failure; Crack block valve TANK 1029	Tank-Block valve	Gas Oil - 4 BBLS	Line isolated, vacuum truck notified and area cleaned.	
95-196	No	OMCC W	10/21/95	LINE 804 Dock manifold line leak flange gasket leaked dripped.	Line-Flange gasket	Toluene < 1 gallon	Mtn called to repair	
95-198	No	OMCC W	10/30/95	A small leak on 18" gasoline line (line 702)	Line	Gasoline < 2 gallons	Isolate/ block line; remediate contaminated soil area	Repaired line
95-200	No	CFHU	10/26/95	Acid leak on cooling tower. All was contained within concrete berm.	Cooling tower	Sulfuric Acid (unknown qty)	Bug Plant notified and permission was given to drain acid flushed with water to sewer.	
95-204	No	OMCC W	11/2/95	Opened roof drain to drain rain water and HC got into roof drain and leaked to FW TK 1025	Tank	< 3 BBLS	Closed roof c	
95-205	No	OMCC W	11/6/95	Clamp on line #853 leaked crude onto water contained within dike wall area of TK 1055	Line-Clamp	Crude less than 5 BBL	Boomed spill ro.tting In W818r. Vacuum Iruc:ka called to delnupMmedItite IPIII	

# Oil History

## Section 1.4.3 Analysis of Potential for an Oil Spill

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Incident #	Oil Spill Status	Unit	Date	Description	Equipment	Quantity	Details	Remarks
95-208	Yes	OSU	11/7/95	Flange leak on a sulfuric acid line	Line-Flange	Sulfuric Acid 150 gallons (1,875 lbs)	Blocked system in and depressured it. The flanges were replaced by Amoco. Garner Env. Services spread soda ash and contaminated soil and backfilled with clean soil. The contaminated soil was sent to Amoco's Land Treatment Facility.	
95-209	Yes	OMCC MARINE	11/10/95	DOCK 33 Hydraulic hose was ruptured by crane as it was rotated into position.	Hose	Hydraulic Fluid < 1 gallon ~ 1 pint entered the water (bay)	The lift crane was immediately shut down. The oil sheen rapidly dispersed in the high winds. The oil was cleaned from the dock facility.	
95-218	No	OMCC W	11/18/95	Sewer backed up into FW 504. Firewall drain found opened. T-Handle taken off valve indicator.	Sewer	Process slop oil ~ 3 BBLS	Closed FW drain; cleaned up (AllWaste)	
95-220.5	No	ENV FAC	11/28/95	Outage on flare #15 was due to installation of flare taps for permit testing.	Flare	Benzene - 16.56 lbs C3+ 279 lbs	Depressured system. Inlet to flare was closed. Waste gas was blocked at the flare and recirculated back to the DAF tank.	Negative results from LEL testing. Followed normal start-up procedures.
95-225	No	ISOM	11/24/95	Amoco Crane #23 leaked hydraulic fluid onto asphalt and dirt.	Equipment-Crane	Hydraulic fluid 10 gallons	Clean up measures initiated.	
95-228	No	OMCC W	12/1/95	TANK 528	Tank	Premium Gasoline 4.1 BBLS		
95-229	No	OMCC MARINE	11/5/95	DOCK 33 Barge #5 2021 has a hole in the port side. Barge is being towed by the Mike S. Brown.	Barge		Captain for the Mike S. Brown is notifying the T C Harbor	
95-233	No	COKER	12/10/95	Filling tank and overflowed into containment area	Tank	Light Vacuum Seal Oil - 1-2 BBLS	Stopped filling tank	
95-237	Yes	ENV FAC	12/17/95	Extremely heavy rains	Pumps	Oily water > 10 BBLS	Due to the amount and length of rainfall, the basins were unable to hold the qty of water required. During the storm the Env Fac lost power to its pumps. Garner ENV. containment/cleanup was started. Any contaminated soil will be sent to Amoco's land treatment Facility and contaminated water back to the refinery for treatment. Clean up is to be completed 12/29/95	



# Oil Spill History

## Section 1.4.3 Analysis of Potential for an Oil Spill

INCIDENT NO	UNLAWFUL SOURCE	UNIT	SPILL DATE	EXPLANATION	EQUIPMENT	POLLUTANT	MEASURE
95-238	Yes	OTHER	12/17/95	Heavy rains and length of rain duration washed oil from various sources. Refinery General	Refinery General	Oily Water - > 5 BBLS	Contacted available to begin booming vacuuming off oil. contaminated water treated in the refinery processing facility be completed by
95-242	No	OMCC W	12/19/95	TANK 61 Unknown source of oil	Tank FW	Oil - 7 gallons	Vacuuming off oil
95-244	No	ULC	12/20/95	A closed valve resulted in an RV release to the blowdown stack.	Relief valve	Petroleum Distillate - <3 Bbl. Slo 1011	Reduced flow rate in RV. Contaminants removed and to be remediated at Am Treatment Facility will be completed
95-252	Yes	OMCC MARINE	12/24/95	DOCK 54 A block valve was inadvertently left opened, which resulted in a spill to the ground. the benzene spill to the ground froze due to the low ambient temperature.	Block valve	Benzene - 20 gallons	Closed block valve. Environmental vacuum was dispatched to benzene. The material taken to the Amoco for product recovery
95-255	No	OMCC W	12/27/95	Product in firewall of TK 504 (ULR spill) wind has blown to SW corner of firewall.	Tank FW	ULR about 8 gallons ULR=Unleaded Regular	Vacuum truck barge to recover ULR
96-009	No	OMCC MARINE	1/8/96	DOCK 32 Oil from unknown source drifting toward Dock 32. Source unknown. Per Coast Guard, Not Amoco's Responsibility.	Unknown	Small amount of heavy oil	
96-011	No	OMCC MARINE	1/10/96	DOCK 33 Barge Co. STOLT release after AMOCO finished loading barge. Barge Company reported incident to agencies.	Barge	Naphtha 1 QT	
96-013	No	OMCC W	1/10/96	Union on pipeline pump, PL-22 leaked.	Pump	Furnace Oil	
96-017	No	OMCC W	1/19/96	Leak N TK 107 Outside FW	Tank	HUC-10 gallons	
96-018	No	ULC	1/22/96	Leak from flare line.	Line-flare	HUC/LUC 2.5 BBLS	
96-025	No	OMCC W	1/26/96	Flange leak, TK 60 FW, TK 70 FW	Line-Flange	Diesel ~2-3 BBLS	
96-029	Yes	OMCC MARINE	1/31/96	The dock sump backed-up into the drip pan. Windy conditions blew the oil into the water.	Sump	Crude oil < 1 BBL to water	A contractor vacuumed the tump, drained the drip pan, and removed the oil from the water.

## Oil Spill History

NO. OF SPILLS	DATE	UNIT	LOCATION	EQUIPMENT	QUANTITY (GALLONS)	REMARKS	STATUS	
96-035	No	ARU	2/6/96	Due to a containment dam drain valve inadvertently left apened. •uptltlelene luk In the discharge line on the chemical injection pump, resulted in a ... to the rock oullllde of the containment dam.	Line-Drain valve	The previously reported hydroquinone 1-2 pions w n n a l 8 du 8 lly reelled. Upon further r a v l e w, I h l l -- n a l ., e n w l l a a m e n t . l e x t A e d e n c e . O n l y 7.5 lbs o f (less than the reportable quanlly of 100 lbs) . . . . . t e l l t a M i d . I n 1 1 1 1 1 i i O i l n c i l b . w e n t m a d e • • C O U i t e s y l o T N R C C M d G C H D t o I n 1 U 1 1 1 c o m p l e n c e w i t h e r r / r o l n . . . . . regulations.	Closed drain valve to containment dam.	Insure all drains to containment dam are closed.
96-041	Yes	OMCC W	2/11/96	TANK 110 Due to a valve failure, during startup of Ultraformer Unit 4, natural gas was sent to a unit rundown Tank 110. Since the natural gas was lighter than the light ultraformer stored in the tank, light ultraformate overflowed into Tank. 110 firewall.	Tank FW	Light Ultraformate (Petroleum Intermediate) Approx. 40 BBLS to Tank 110 Firewall	The tank was blocked in and flow diverted to another tank. A contractor vacuum truck removed the free standing liquid. The soil was remediated.	
96-042	No	ACD PLT	2/13/96	Leak from pipes near acid tks	Pipe	88% Sulfuric acid - 1 gallon		
96-045	Yes	OMCC MARINE	2/14/96	DOCK 38 A surge of cutter stock in Line-8, from the refinery to Dock 38, caused a weld failure at the loading manifold that resulted in a release of approximately 30 gallons of Light Cat Cycle Oil (LCCO) to the Texas City Bay.	Line-weld	Light Cat Cycle Oil (LCCO) Approx. 30 gallons.	The Emergency Shutdown (ESD) was closed and the line blocked in. A contractor was notified immediately to contain and remove product.	
96-048	Yes	ENV FAC	2/17/96	WWTP Lift Station 1 A 30" storm water line developed a leak due to external corrosion.	Line	Untreated Storm Water - 2 BBLS	Leaked storm water was contained to an adjacent storm . . . . . for treatment. Subsequently, the water was blotted and ellipse style cleanup was initiated to 1111 the leak.	
96-055	No	OMCC W	2/27/96	Leaky gasket at flange in FW 127.	Line-Gasket	Light cat cycle oil - 1 BBL		





# Oil History

## Section 1.4.3 Analysis. Potential for an Oil Spill

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INCIDENT No.	CHARGED TO UNIT	UNIT	DATE	DESCRIPTION	EQUIPMENT	CONTAMINANTS	MEASURES TO MINIMIZE	MEASUREMENTS
96-057	Yes	OMCC MARINE	3/1/96	On 2/14/96, a surge of cutter stock in line-8, from the refinery to Dock 38 caused a weld failure at the loading manifold, resulting in a release of approximately 30 gallons of Light Cat Cycle Oil (LCCO) to the Texas City Bay. Corrective measures taken to prevent reoccurrence included isolating and blocking in line 8. However, a valve on a third line below grade was inadvertently not isolated. On 3/1/96, the third line was pressurized and residual Light Cat Cycle Oil was forced from the line at the location of the 2/14/96 weld failure. Approximately one gallon of Light Cat Cycle Oil was released to the Texas City Bay.	Line	Light Cat Cycle Oil (LCCO) - Approx. 1 gallon	The valve was closed and the line below grade was blinded.	
96-058	No	ENV FAC	3/2/96	Contractor truck vacuum hose leak. BETWEEN ENV FAC PS38	Truck-Hose	Vacuum Naphtha - 2-3 BBLS		
96-059	No	MTN	3/2/96	GARAGE Line Leak from 500 GAL strg. TK	Tank-Line	#46 Hydraulic oil > 5 BBLS		
96-060	No	HU	3/8/96	Pipe ruptured and ~ 250 gallons of 10% Bleach solution was released to concrete containment area.	Pipe	10% bleach solution - 250 gallons		
96-061	Yes	OMCC MARINE	3/15/96	DOCK 37 While installing an isolated blind, a small amount of diesel dripped down the pipe into the water. A small (2'-3') sheen appeared, and rapidly dispersed.	Line-Blind	Diesel 2-3 drops	Sheen was monitored until it dispersed.	
96-068	No	OMCC MARINE	3/18/96	DOCK 37, 38 Unknown substance source, Not Amoco.	Unknown	Light sheen w/brown spots		
96-070	No	ACD PLT	3/27/96	Suction piping on tank 302 B developed a leak. Spilled to containment area.	Tank-pipe	Fresh acid - 2,448 gallons		
96-072	No	ARU	3/31/96	A Solvent pump blew a seal which resulted in the relief of Sulfolane to the sewer	Pump	10 gallons of Sulfolane spilled to deck which subsequently went to sewer.		
96-075	Yes	OMCC MARINE	4/7/96	DOCK 37, 38 An underground line developed a leak due to internal corrosion.	Line	Crude Oil - Coast Guard estimated 3-4 BBLS	Theh-- :--- cfepwuured and an •¥•166111d dimp walnttded. A wucalled toltart of the toll, tlcn	
96-076	No	OMCC W	4/9/96	LINE FCCU1 Existing Clamp leaked.	Line-Clamp	Light Cat Cycle Oil 10 gallons		
96-077	No	ULC	4/9/96	Acid valve left open from day shift. Acid filled holding basin. There la • m n crack In the 1eot te, and •lmilil "Of the acid leaked from tt. holding basin. The acid traveled across ground to .....	Acid Valve	H2SO4-10% of 300 gls= 30 GLS		



### Oil Spill History

INCIDENT NO.	CHARGED TO UNIT	UNIT	DATE	EXPLANATION	EQUIPMENT	QUANTITY	MEASURES
96-085	No	OMCC W	4/25/96	Flushed gasoline product from line 275 A	Line	Flushed gasoline 1 gallon	
96-086	No	OMCC W	4/28/96	A sample valve line from the	Line-Sample valve	Toluene ~ 3 BBLS	
96-088	No	OMCC W	5/6/96	LINE 1204 Stain soil on high FW S Of TK 4000. Underground leak.	Line	Gas Oil < 5 BBLS	
96-092	No	UU3	5/11/96	Flange Leak	Line-Flange	Naphtha to Pavement	
96-093	Yes	UU3	5/11/96	Ultraformer Unit 3 took an emergency outage, to inspect/repair the 320-J recycle gas compressor. During this process, product rundown line relief valve #263-H relieved to atmosphere.	Relief valve	Heavy Virgin Naphtha - 20 BBLS	Depressured run Reset relief valve
96-096	No	ACD PLT	5/17/96	Overfilled acid car no. of the SRU	Acid Car	Acid 2-3 gallons	
96-098	Yes	UU3	5/29/96	Valve near UU3 cooling tower was discovered to be not completely closed. Valve on tank's secondary containment malfunctioned.	Tank-Valve	Sodium Hypochlorite - 688 lbs (RQ 100 lbs)	Tank and valve w off. The contaminant remediated by All was taken to the
96-099	Yes	OMCC MARINE	5/29/96	DOCK 40 Line 805A pipe line developed a leak due to external corrosion.	Line	Crude Oil - Unknown, 5-6 drops per minute, resulting in noticeable sheen on water. (Galveston Bay Water)	The line was dep temporarily out of Coast Guard can situation. A temp will be installed u permanent repair
96-102	Yes	ENV FAC	5/31/96	Overfilled tank, opera 6/20/96 ADDENDUM TO 8111198 (ACTION) F-603	Tank	DAF float and sludge 5 BBLS	The pumps that a product to the tan down and release
96-105	Yes	OMCC W	6/4/96	TANK 1043 CHARGED TO OTHER At approximately 17:45 on 6/4/96 lightning struck a 66,000 BBL MTBE tank resulting in a fire.	Tank	Methyl Tertiary Butyl Ether (MTBE) MTBE burned - 24,592 BBLS MTBE Volatized - 3.7 BBLS MTBE To soil - .2 BBLS MTBE recovered to Tank 503 - 36,762.4 BBLS	The fire was extin the remaining liq covered with foam transferred to Tar
96-107	No	UU4	6/16/96	A coupling broke on a pump causing the lube oil leak.	Pump	Lube Oil 250 gallons	





# Oil History

## Section 1.4.3 Analysis... e Potential for an Oil Spill

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INCIDENT NO.	CHANGED TO UNIT	UNIT	DATE	DESCRIPTION	EQUIPMENT	CONTAMINANT	DISPOSAL/REMEDIAL ACTION	STATUS/REMARKS
98-108	Yes	OMCC W	6/18/96	TANK 25 Corrosion caused a hole on one of the underside no.ting poulootil. The pontoon filled with fi'Oduct tiling the roof and abmg pRiduct to cover 1t1e top Mdlon. The roof aank allowing PfOduct to nm out the roof drain Into the link U111W111.	Tank	Heavy Raffinate (Petroleum Intermediate) - 120 BBLS to soil VOC's - 283 LBS	The tank header valves were blocked in to isolate the tank. A portable pump was used to remove product from roof. A vacuum truck was used to remove product from the firewall. the contaminated soil is being removed and taken to Amoco's Land Treatment Facility. The tank is being prepared for repairs. The tank came out of service on June 18, 1996 for a scheduled turnaround and will be returned to service upon completion, approximately October 1, 1996.	N/A
98-109	Yes	OSU	6/19/96	A leak developed in a 6" 3# vent line located at the Pipestill 3A north manifold.	Line	VOC's 1103 lbs (Kerosene) H2S-6 lbs	A clamp was installed.	on system.
98-112	No	OMCC W	6/25/96	Tank 110 During UU4 s/u rundown stream cutover to tankage prior to stream being on spec. (operator error; misalignment of valves). Product accumulated on roof and leaked to soil.	Tank	Gasoline-Intermediate VOC's > 100 lbs < 5 BBLS	Removed free product on roof and soil with vacuum truck excavating contaminated soil and taking to landfarm.	
98-113	No	ARU	6/29/96	Operator was opening a 3" boot drain valve to drain water off the 614-F drum. Mechanical failure of valve occurred and could not be closed which resulted in the benzene spill. The spill was contained on concrete and drained to the closest process sewer drain.  (NO RULE 6; LETTER)	Drum-Drain Valve	Benzene - minimum of 500 gallons	Boot drain 614 F drum was isolated from system.	1=(Le. d18In wive etc.)
98-114	No	OSU	6/30/96	Diesel fuel truck leaked diesel fuel from Alky #3 to the heavy equipment yard. Spill was contained on road ways. No soil was contaminated. OMCC and security were notified.	Truck	Diesel fuel - 100 gallons	Roadway was sanded	
98-115	No	ACD PLT	7/2/96	S/D leak on exchanger; leaking bull plug; tried to tighten it; nipple cracked	Exchanger-Bull plug; nipple	None - Acid to concrete than to sewer (amount unknown)	Pat S/D 01:35: SIU 13:30	
98-117	No	ALKY 2	7/4/96	Main acid line, 2000 south of FCCU3 , pinhole leak to ground	Line	Small sulfuric acid leak approx. 20 gallons	De to an. called Gamer to neutralize end cleen ground	
98-118	No	POWER 4	7/5/96	Fitting leak on bleach tank	Tank	Sodium Hypochlorite (Bleach) 1 pint	Removed bleach from tank via vacuum truck.	Will repair piping and return material to tank.





# Oil History

## Section 1.4.3 Analysis of Potential for an Oil Spill

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Incident Number	Is it a spill?	Unit	Date	Description	Equipment	Quantity	Location	Remarks
96-119	No	PS3A	7/6/96	Leak developed on a 6" GOF overhead line to the 3# system; it diverted to the flare.  (No rule 6; LETTER)	Line	VOC's 98 lbs H2S - < .1 lb		Depressured line, and isolated line.  The line was depressured and isolated
96-122	No	ENV FAC	7/9/96	Clamp leak ACC styrene line at Hydrogen Plant ditch S of TK 1058	Line-Clamp	< pint styrene		Repairing clamp
96-124	No	ARU	7/11/96		Unknown	~ 1 gallon of hydroquinine		Soil put into drum
96-125	No	OSU	7/16/96	POWER 2 Piping Corrosion resulted in a pinhole leak on the 3# vent line.	Line	Liquid C3+ - 37.3 lbs Liquid H2S - 0.04 lbs Vapor C3+ - 62 lbs Vapor H2S-17 lbs		The line was clamped and returned to service.
96-131	No	HU	7/26/96	Spraying from tubing on low volume pump @ cooling tower to gravel area.	Cooling Tower-pump	Sulfuric Acid - 2 gallons		Soda ash on spill.  Repaired tubing
96-135	Yes	OMCC W	8/3/96	Line 812B East of Tank 1055 leak due to external corrosion.	Una	Sweet Crude Oil - 20 BBLS		The line was isolated and repaired. The free product was removed and the contaminated soil was excavated and taken to the Amoco's landfarm.
96-136	Yes	OMCC W	8/4/96	TK 27 Flange gasket failure.		Ultimate Gasoline (Premium Gasoline) - 52 BBLS		The line was isolate and the flange gasket was replaced. The free product was recovered and soil core-samples were collected for benzene analysis. Future actions will be determined upon receipt of the analytical results.
96-138	No	ARU	8/8/96	605J pump seal		Sulfolane to sewer.		Env Fac contacted to vac out sewer. All clear 12:03 a.m. Pump Isolator
96-146	No	PS3A	8/13/96	Nipple blowout outlet212	Exchanger-Nipple	Light gasoline (heavy straight run substance evaporated or hit concrete and was recovered. 8/14/96 Fire Dept. responded and applied foam to release area to contain vapors		Fire Dept. responded and applied foam to release area to contain vapors
96-148	No	PS3A	8/14/96	3-inch line near exchanger leaked (212CA)	Exchanger-Line	Gasoline		Gasoline contained on deck and foamed by fire Dept. Line was blocked in

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# Oil History

## Section 1.4.3 Analysis... e Potential for an Oil Spill

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NO. DATE	STATUS	UNIT	DATE	EXPLANATION	EQUIPMENT	POLLUTANTS	MEASURES TO BE TAKEN	MEASURES TO BE TAKEN
96-151	No	FCCU3	8/14/96	OW Separator backed up	OWS	oil/water < 5 bbls	Vacuum truck to clean up	
96-155	No	POWER 2	8/17/96	Injection well testing; valve on 1" hose opened; hose not connected caused hose to drain to soil	Hose-Valve	Sour water/oil ~ 1 gallon	Hose drained to ground	Gamer to clean up contaminated soil
96-159	No	LAB	8/16/96	Sump over flow resulted in spill of resid to rocks	Sump	Vacuum truck to clean sump. Contaminated soil to be removed.		
96-167	No	OSU	8/28/96	14" gas oil line leak	Line	Gas Oil-< 5 BBLS	Identify line, clamped and repaired	
96-168	No	ISOM	8/29/96	Leak 401-J pump	Pump	Caustic to sewer.	Repairing leak	
96-169	Yes	ENV FAC	8/30/96	During a severe thunderstorm, a lightning strike resulted in a loss of power. Due to the excessive rainfall and loss of power, Separator #3 overflowed.	OWS	Primary waste water sludge - 5 gallons	Power was returned to service and clean-up activities were started.	
96-173 Combined with 96-174	No	ENV FAC	9/1/96	003 Outfall going to Galveston Bay. Separator 3 spilling over. No sheen 1.29" rain	A-003	Stormwater during heavy rains - 003 discharge	Boomed and absorbents put out. Gamer Environmental on the scene.	Continue to work down levels. Keep booms and absorbents in place.
96-174	No	ENV FAC	9/2/96	Thunderstorm with lightning strike caused power failure to the Environmental Facility. Unable to skim stormwater.	A-003	003 Outfall discharge with slight sheen.	Booms and absorbents in place. Gamer on site with vacuum trucks.	Got power back on.
96-180	No	PS3A	9/7/96	Line 416 F desalter water (service process water) accumulated to blowdown.	Line	Process and service water	After drum is leveled out line will go back to flare thru 808F.	
96-181	No	COKER A	9/9/96	COKER A Feed line leak of LCCO (80-100 gal) into concrete containment area at Coker A.	Line	Light Cat Cycle Oil (LCCO) 80-100 gallons	Cleaned area with vacuum truck	
96-182	No	OMCC W	9/9/96	Two flange leaks on line 10	Line-Flange	HVY Crude - 2 gallons		
96-189	No	POWER 2	9/23/96	Spill to ground, north of Alky 2 cooling tower	Unknown	Recovered water - 15 gallons		
96-205	Yes	OMCC MARINE	10/21/96	DOCK 38 Hydraulic hose leak on winch.	Hose	Hydraulic Oil	The hydraulic hose was isolated.	Repaired hydraulic hose.
96-209	Yes	OMCC MARINE	10/24/96	DOCK 54 Heavy rain overfilled the wastewater sump at dock 54.	Sump	Wastewater containing benzene - 2 gallons, 1/2 went to bay		
96-215	No	ACD PLT	11/5/96	Emergency shutdown of acid plant due to an acid leak.	Unknown	None. Acid spill was contained.		
96-220	Yes	POWER 2	11/9/96	Level instrumentation malfunction coupled with inadvertent operator action resulted in an overflow of Tank 159.	Tank	Sour Water - 10 gallons (spilled to 2nd containment area) 200 gallons (spilled within secondary containment area)	drums by Gamer Env for proper disposal. Tank level	
96-223	Yes	ENV FAC	11/15/96	Mechanical pump failure. Separator 1	Pump	Untreated Waste Water - 200 gallons		





## Oil Spill History

INCIDENT NO.	INCIDENT TYPE	UNIT	DATE	DESCRIPTION	EQUIPMENT	CONTAINMENT	MEASURES TO PREVENT	MEASURES TO PREVENT
96-228	No	RHU	11/18/96	A pinhole leak developed on a two inch line elbow. 06:00-20:00	Line-Elbow	VOC's 88 lbs H2S 5.6 lbs	Pulled resid Blocked in vessel.	
96-235	No	POWER 3	12/5/96	55 gallon drum developed a leak and dripped to pallet and into contained area.	Drum	Purasorb AF-4 Antifoam additive - 1/2 gallon	Contained in area; used portable pump; pumped to sewer.	
96-238	No	LAB	12/11/96	Pump motor tripped breaker causing sump to overflow.	Sump	wastewater mixed w/hc's to actual gravel & soil (most of the area is paved and drains to sewer) < 10 gallons	Vacuum trucks were being used to suck out sump.	Putting larger impellers on pump
		MARINE		overfilled, which resulted in a spill to water from the barge gauge hatch. Upon further review, it was determined that the spill resulted from a barge gauge hatch when Hollywood barge #1304-tank 3 was overfilled. Initial notifications were made as a courtesy to TNRCC, GCHD, and the NRC to insure compliance with environmental regulations. However, Hollywood Barge is not the property of Amoco Petroleum Products.		to Texas City Harbor per Coast Guard Report.	the I hwaMCUI'8d, and the IPI!wn conUied. Gerner Envrironmental vacuumed up the oilL	
96-250	No	POWER 2	12/25/96	Overhead line leak	Line	LCCO - < 5 BBLS	Blocking in line, depressuring	
96-251	No	OMCC W	12/26/96	TK 4000 Gasket failure on water draw line.	Line-Gasket	High sulfur gas oil mixed with water ~ 1.5 BBLS	Water draw line blocked and repaired, vacuum truck picked up free liquid, soil will be cleaned up.	Vacuum truck for free liquid, Gerner to clean soil.
97-001	No	OMCC MARINE	1/1/97	DOCK 41 Eagle Centauris at dock 41 spilled their own fuel oil over board. Captain of vessel called Coast Guard.	Barge	Bunker fuel; couple barrels		
97-003	No	UU4	1/5/97	High level in F 450 NESHAP drum, so flow out overflow line to sewer. Gap between overflow pipe and sewer, so oil was spraying out onto concrete; some oil on gravel also.	Line	Oil -100 to 200 gal	Overflow line was blocked in	
97-004	No	ARU	1/5/97	Light stop system backed up into NESHAP drum causing oil overflow. Upon further review, it was determined that less than the reportable quantity of 5 BBLS of oil/water spilled to soil. Gerner Environmental removed the contaminated soil and placed it in drums. The contaminated soil will be disposed of properly upon findings of lab analysis. Initial notifications were made as a courtesy to SERC and GCHD to insure compliance with environmental regulations.	Light stop system	Oil < 5 BBL		
97-015	No	OMCC W	1/13/97	LINE 170 Leaking flange near tank 21	Line-Flange	Kerosene <3 BBLS to soil	Line 170 out of service to repair flange. Gerner Environmental to clean up	



## Oil Spill History

NO.	INCIDENT TYPE	UNIT	DATE	EXPLANATION	EQUIPMENT	CONTAMINANT	MEASURES TAKEN	STATUS
97-017	No	UU3	1/14/97	UU3 536 Drum at AU2 lost J44 seal on pump	Pump seal	DDU Naphtha 9-12 gallons to containment; 1-2 gallons to soil	All Waste to vacuum contaminated soil and taken to Separator 3. Blocked in pump	
97-018	No	OMCC MARINE	1/14/97	DOCK 32 piled from ship occurred after unloading the SMIQI Services, Tall Trader. Not Amoco's Responsibility	Barge	HVY Benzene Concentrate; light benzene, 2 BBLS in bay		
97-019	No	COKER A	1/15/97	RV#3L, on Coker A south drum lifted to atmosphere Upon further review, it was determined that there were no VOC's releases to atmosphere. The oil mist from the relief valve was contained and recovered within the Coker "A" Unit. The oil (less than the reportable quantity of 5 BBLS) did not come in contact with soil.	Relief valve	Coke/Oil/Steam - 3 BBLS (Mist)	RV reseated; cut water	
97-023	No	POWER 2	1/18/97	Experienced a 1/2" hole leak in a 12" vent gas line at 4.2 PSI for 14 min. and at 2.0 PSI for next 24 min.	Line	2-3 gallons of hydrocarbon liquid on ground as a result of vent gas leak. VOC's and H2S released to air. Estimated quantity of release is less than reportable quantity for both VOC's and H2S. H2S - 27 lbs C3 - 84 lbs	Opened flare line to relieve pressure on vent gas line. Reduced pressure from 4.2 PSI to 2.0 PSI. Plugged hole at 3:48 p.m. with a wooden peg.	On Monday will have a stainless steel clamp placed on line and will have inspection group inspect line to determine cause of leak.
97-031	Yes	ENV FAC	1/23/97	Seal failure on S-33 pump at API Yes. 1 (Env. Fac.)	Pump seal	Untreated storm and waste water > 1 gallon and < 100 gallons	Pump was shutdown, repaired and returned to service. Remediated area.	
97-047	Yes	OMCC MARINE	2/15/97	DOCK 30 Hydraulic hose on crane broke and sprayed oil on the dock and some into the bay.	Equipment-Hose	Hydraulic Oil - 1 pint	The dock operator shutdown and notified supervisor	All notifications were made and Garner did the clean up. Maintenance replaced the bad hose.
97-052	No	POWER 2	2/13/97	Leak first noticed on nights on 2/13. Initially thought leak was a packing leak on absorber. Further evaluation showed leak actually from clamp on 1" underground vent line to absorber.	Line-clamp	Safeseal, called in to fix clamp/leak. Safeseal unable to completely stop leak. C3 - 91.68 lbs H2S - 29.34 lbs		
97-057	No	COKER A	3/4/97	COKE A Small flange leak fire	Line-Flange	#9 oil		





## Oil Spill History

INCIDENT NO.	CHARGES TO UNIT	UNIT	UP DATE	EVALUATION	EQUIPMENT	CONTAMINANTS	MEASURES TO MINIMIZE	RECOMMENDATIONS
97-059	No	OMCC W	2/21/97	Line 635 overpressured due to the thermal expansion of diesel in this No. 6 oil line. Diesel had been flushed through and packed in this system to displace No. 6 oil (normal service medium). The steam tracing remained in service in the segments referred to on the attached drawing. The combination of heat from the steam tracing and higher atmospheric temperature created the over pressure.	Line	No. 6 oil- 3 BBLs	Started evacuating the line and replaced gaskets. Had vacuum truck and tub on site within 10 minutes. Started Clean-up	Will do an RCFA to identify need changes to existing procedures.
97-061	Yes	OMCC W	3/6/97	Line on TET Prover overpressured, resulting in a relief valve lift.	Relief valve	Diesel - 20 BBLs	The TET prover was isolated and Air/Waste Environmental recovered the contaminated soil. Impacted soil is being analyzed for proper disposal.	
97-068	Yes	SRU	3/10/97	3/10/97 During maintenance on a valve failure, a flange leak developed resulting in a release. Due to the SRU upset, the quality of the MIEA entering Power 3 degraded, therefore; Power 3 was unable to maintain the 162 ppm permit limit for H2S in fuel gas. 3/11/97 During maintenance completion of the valve failure for 3/10/97, a flange leak occurred.	Line-Flange	3/10/97 SRU 1300:18:00 SO2-4381bs H2S-.71bs Powlr3 15:50-22:24 SO2 8041bs H2S-13 '1' (Total excess SO2 1,242 lbs; Total H2S release 2011a) 3/11/97 SRU 17:00-20:00 SO2-138 lbs H2S-3 lbs Power 3 17:00-22:35 SO2-642 lbs H2S-10 lbs Total excess SO2 778 lbs; Total H2S-13 lbs)	Reduce pressure, reduce sulfur load and a fire monitor on leak	
			3/12/97	Hydrocarbons from refinery sewer system backed into TK1010 firewall during heavy rains.	Sewer	Oil 25 BBLs	Vacuum trucks removed oil and water from firewall. A system was implemented to frequently check the firewall drain to ensure it is closed when not in use, and to improve communications during rain events regarding equipment outages, etc.	
97-082	No	RDU	3/25/97	608 C RV on Steam pre-heater lifted.	Relief valve	Decanted oil (5 gals) (contained within the unit)		



## Oil History

### Section 1.4.3 Analysis of the Potential for an Oil Spill

INCIDENT NO.	SPILL TYPE	UNIT	DATE	DESCRIPTION	EQUIPMENT	QUANTITIES	MEASURES
97-086	Yes	OMCC MARINE	3/30/97	DOCK 32 An underground flange leak developed on an abandoned crude pipeline.	Line-Flange	Light Crude - 40 gallons on shore 1 quart to water	The shore area was sandbagged, a spill was created and recovered with a Recovered water taken to the refinery recycling. The flange exposed, cleaned.
97-091	No	ARU	4/2/97	Relief valve lifted on solvent filters 3/4" line under 150 PSIG for ~ 20 minutes.	Relief valve	Lean Sulfolane - Low Benzene	Blocked in line with additional release RV. Vacuum truck contacted to recover from sewers.
97-093	No	OMCC W	4/10/97	OSO H2 15 Line leak (Sour hydrogen line from UU3, ISOM, and AU2 going to ULC)	Line	C3-58 lbs	Line was taken out and leak section replaced.
97-100	No	OMCC MARINE	4/21/97	DOCK 38 Spill of gasoline while unloading ...COIN Midline hose to barge. On April 21, a spill occurred at dock 38 from the barge 2907. 2 gallons of gasoline were spilled from the end of a dock hose when the barge tankerman dropped the hose onto the barge. The tankerman accepted responsibility for his actions. Julio Bynum was notified several days later by the USCG that Amoco was being charged and fined for this spill. Their reasoning was that it was our house, our product, and our dockman had pulled the hose out of the tankerman's control. He protested and did not pay the fine. The fine was sent to District 8 USCG headquarters. The fine was doubled to \$500.00. Again this fine was protested. Aug 13, 1997 Julio met with Robert Goolsby, Senior Operations Manager with Dbde Marine. He presented his findings from the investigation of this incident. He accepted full responsibility for this incident. His report will be forwarded to the USCG district office. Incident not CHARGED TO DOCKS	Hose	Gasoline < 2 gallons	Garner Environment and cleanup was
97-104	No	OMCC W	4/10/97	An underground section of line 614 west of Pipestill 3A developed a pinhole leak.	Une	#6 Oil/Distillate - 2 BBLs	Blocked the line in excavating.

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Event ID	Spill Occurred	Unit	Date	Description	Equipment	Quantity	Measurements	Remarks
97-111	No	POWER 3	5/8/97	Leak occurred from line on south side of Pwr 3 cooling tower.	Line	Sulfuric Acid - 8 gallons	Line blocked in; Garner contacted to remove soil	
97-114	Yes	OMCC W	5/13/97	Gasket failure on 400 line inside of Tank 561 firewall resulted in a spill to ground.	Line-Gasket	Gas oil - approximately 10 BBLs	The line was immediately depressured.	
97-130	No	OMCC W	6/5/97	Flare 40 West of PS3A LINE 625 Kerosene line 625 leaking NE of 3rd and Ave. G. discovered at about 2:30 am by Carlos Maruri PS3.	Line	Kerosene-3 BBLs	PS3A was CK'd the line, combining rundown with PS38. ICERO. Une-IP'd and b rwtum 10...for pel"1111nent rwp11lr ..engineerid.	
17-134	No	CFHU	6/10/97	Gooseneck overflow on CFHU flare header line due to RV lift during startup of RHU200	Line-Flare	Resid/DCO - 3 88L.S		
	No	OMCC W	6/16/97	Pressure gauge blew off discharge pump 154J spilling light slop oil to unit concrete area and roadway.  Upon bther review was detennlned the .....uxfa:illel) 20p1on1wn,...sed, lolllllhldtoniJ a podlon - not on conlal'n•nt.	Pump-pressure gauge	Light slop - 20 gallons Slop oil is not SARA/CERLA reportable (No RQ)	Pump was shutdown and gauge isolated. spill was washed/hosed down to unit O.W.S	OMCC flow will be monitored closely.
				blend finished and found btms leak at water drain box & notified asset supervisor. Asset Supervisor evaluated situation & decided to have TK55 pumped out to TK 56 and pulled TK 55 to suction then pull even lower thru dewatering system. Approximately 2 BBLs spilled into water draw box & ground				
97-141	No	OMCC W	6/14/97	Sometime around 9:30 a.m. a representative for Boo's Pump noticed the leak and shutdown the pump. The shiftforeman noticed the pump was down and investigated why. That is when the leak was discovered at 12:40 pm. The lines were Blocked in and depressured. A new hose was installed and the pump was restarted. TK109	Pump	Naphtha 5 Gallons		
97-146	No	OTHER	6/26/97	Small leak on container being taken to Power 4.	Conta	Turbotect 950D (Soap)	Fire dept. hosed down to our Refinery process sewer. MSDS reviewed; nonhazardous material	Employees to inspect containers before moving them within refinery.
97-151	No	POWER 3	6/29/97	500 gallons to soil. MEA sump overflowed when level controller failed. The MEA spilled is not a SARA/CERLA reportable substance. In addition, it did not exceed 100 lbs of VOC's. There fore the event is not reportable.	Sump	MEA-500 gallons to soil Air release-MEA(VOC's) 9 lbs	Manually activated controller. Pumps brought level down.	Repair level controller.





# Oil Spill History

## Section 1.4.3 Analysis of Potential for an Oil Spill

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INCIDENT NO.	CHARGED TO UNIT	UNIT	U.S. DATE	EXPLANATION	EQUIPMENT	CONTAMINANT	MEASURES TO MINIMIZE	INCIDENT STATUS
97-166	Yes	OMCC W	8/1/97	TK60 FW Flange leak.	Line-Flange	LCCO#6 fuel oil mbr - 15 BBLS	Tank header isolated and replaced gasket, area cleaned up.	
97-168	Yes	ENV FAC	8/5/97	A six-inch discharge hose ruptured on a refinery process water sewer pump. API Separator 3	OWS	Waste water 5 BBLS	The pump was taken out of service and a backup pump was put in service. Garner Environmental was contacted and responded to clean up the area. Amoco is currently waiting for the analytical results of clean-up confirmation samples. Once those results are received, they will be forwarded to the TNRCC as an addendum to this report.	
97-187	No	DDU200	9/6/97	Failure of an inboard seal on the stripper tower reboiler pump resulted in a fire. Unit personnel extinguished the fire immediately. The duration of the fire was from 10:35-10:37. The material released (diesel) is not a SARA/CERCLA reportable substance. Approximately less than one gallon of diesel burned. Initial notifications were made as a courtesy to SERC and GCHD to ensure compliance with environmental regulations.	Pump-inboard seal	Diesel < 1 gallon	Fire Extinguished	
97-200	No	OMCC W	9/21/97	Crude Oil spill at the crude charge station on Sept. 21, 1997. The spill was verified to be water with an oil sheen and was less than the reportable quantity. Therefore, this event is non-reportable. Initial notifications were made as a courtesy to SERC and GCHD to ensure compliance with environmental regulations.	Pump	Oil -0.001 BBL	Both pumps running now and problem clearing up.	
97-203	No	ENV FAC	9/23/97	Oil washed out of roll-off box during heavy rains.	Roll off box	Oil- < 5 BBL oil spilled to ground around filter crush pad area.	Vacuum truck cleaning up area.	
97-204	No	ENV FAC	9/23/97	Amoco Petroleum Products, Texas City Business Unit, reported a discharge occurrence at permitted outfall A-003 on September 23, 1997. The discharge occurred for approximately ten hours. Sample analyses revealed no permit exceedences occurred during this time period. Initial notifications were made as a courtesy to SERC, TNRCC, NRC, EPA and GCHD to ensure compliance with environmental regulations.	A-003	Stormwater	Booms	

INCIDENT NO.	CHARGED	UNIT	UPS DATE	EXPLANATION	EQUIPMENT	COLLECTION	MEASURE TO MINIMIZE	REMARKS
97-208	No	OMCC W	9/23/97	Tk 183 pontoons filled up due to HVY rains the week before; roof collapsed, foamed immediately, pumped TK 183 product out to HVY cat TKS 15 & 16. FW spill foam and water.	Tank	Foam and water HCN - 3.4 lbs to atmosphere	The RVP of HCN is low (1.0 psi) and the fluid was 17.8 feet below the top of the tank, effects of air circulation were minimal. No product was spilled on the ground during this incident	
97-241	No	OMCC MARINE	11/8/97	As the Higman barge pulled away from Dock 33, approximately 2 barrels of light cat cycle oil was spilled to the water surface.	Barge	Light Cat Cycle Oil (LCCO) - 2 BBLS	Garner Environmental was contacted and responded to the spill. The spill area was boomed and any recoverable oil was collected. The Higman Towing Company, owner of the barge, has taken full responsibility of the spill and any subsequent clean up activities. Any further information can be obtained from Higman.	
97-242	No	OMCC W	11/9/97	Gasket failure on a flange at Tank 503, Line 421.	Line-flange gasket	Heavy Slop- 1 BBL		
97-244	No	ULC	11/15/97	The line [REDACTED] The fire depem.nt responded and [REDACTED] to the [REDACTED] Due to the action, a [REDACTED] to the atmosphere. ThenfoN. lhl.vent Is non-reportible. tnlll noll'lcllloua,... mlde a courtesy to SERC llll OCHD to ensan [REDACTED] with [REDACTED] regulations.	Line	Distillate - 85 BBLS to concrete and refinery sewer.	Isolated line leak (distillate)	Repaired leak
97-245	No	FCCU2	11/16/97	Bringing Unit Down but circulation	Unknown	Slurry leak		
97-255	No	UU4 DDU	12/9/97	During startup of flue gas compressor, seal oil was released from blowdown stack due to a plugged drain. Some employee vehicles in 29th st lot received overspray. About 1/2 of lot. No evidence of spray off-site. Malingate will wend note to R. Knight.	Blowdown stack-plugged drain	Seal oil - 1 BBL	Unplugged drain	
97-272	Yes	OMCC MARINE	12/25/97	The sump pump failed to come on when the sump level reached the high gauge. This resulted in an overflow to the containment area and the shoreline, east of Dock 37.	Sump-pump	#6 Fuel Oil- Approximately 2 BBLS	Garner Environmental was contacted and responded to the spill. The spill area was boomed and any recoverable oil was collected.	
97-273	No	GATE 42	12/26/97	Sulfur spill from dome of DOL truck at Gate 42 [REDACTED] 10 Guard't pent' - II about 2 inches at bottom. Old not toudl akin. Dome lid had not been tighten	Truck	Sulfur <1 lb (more of a spray)	Need to get good seal on dome lid by ensuring that no sulfur is on gasket	
98-002	No	COKER C	1/7/98	RV lifted for 15 seconds	Relief valve-controller	Gas Oil - 1 BBL to containment	RV reseated	





# Oil History

## Section 1.4.3 Analysis of the Potential for an Oil Spill

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INCIDENT NO.	CHARGED FOUND	UNIT	DATE	EXPLANATION	EQUIPMENT	QUANTITY	MEASURE TO MINIMIZE	STATUS OF MEASURE
98-003	No	COKE C	1/9/98	Pressure controller resulted in a sludge slurry leak on Coker C SW E304 Steam Drum Deck.	Drum-Pressure controller	Sludge Slurry Spill - 1.5 BBLS	Controller was blocked in and containment area was sandbag. ECI shoveled sludge to containment area. Garger will vacuum up sludge; containment area will be water washed to refinery sewer. Sandbags will be disposed of properly	
98-016	No	OMCC W	1/19/98	Pinhole leak on line 625 located at NW corner of TK25	Line	Kerosene - 2 BBLS	Clamp being applied to line	N/A
98-022	No	OMCC MARINE	1/23/98	A small crude oil leak from Higman Barge #HTCO 2010 at Dock 33 resulted in a spill to the bay. Captain Ronald Williams, for the Johnny Brown Tow Boat Company, accepted responsibility for the spill and notified the Coast Guard. Initial notification by Amoco was made as a courtesy to GCHD, SERC, and the NRC to ensure compliance with environmental regulations.	Barge	Crude Oil - less than 1 BBL	Captain Williams received authorization from the Coast Guard to continue unloading. The leak stopped. Garger Environmental set up booms and the oil was recovered.	
98-026	No	UU3	1/27/98	Material was spilled to concrete when rescue team was trying to remove a cat-tech employee from a catalyst shoot.	Catalyst Shoot	Platinum Refining Catalyst and Aluminum Silicate Catalyst		
98-027	Yes	OMCC W	2/4/98	A leak developed on Line 700, West of PL-14A pump; eou4h of Tank Z7.	Line	Gasoline-10 BBLS	Line 700 was isolated and blocked in. Excavation started and a vacuum truck recovered the product. The line was repaired, tested and returned to service. Approximately 100 cubic yards of contaminated soil was removed and will be sent offsite for disposal (Duratherm).	Line leak was clamped temporarily and working on plans to replace and wrap section of pipe.
98-030	No	POWER 2	2/6/98	Flange leak on the F-803 knockout drum.	Flare-Knockout drum flange	Sour Water - 50 gallons Based on the laboratory analytical results of the spilled material and process knowledge of the hazardous constituents, no CERCLA or SARA hazardous substance reportable quantity was exceeded (per 40 CFR 302.6(b)(1)(i)).	Repaired flange. The spilled material was vacuumed up and the impacted soil excavated. Awaiting analytical results to determine appropriate disposal of impacted soil.	



## Oil Spill History

Incident ID	Occurred to Unit	Unit	Incident Date	Description	Equipment	Quantity/Type	Measures Taken	Remarks
98-033	No	OMCC W	2/8/98	Roof Drain-carryover	Tank FW	Light slop - 1 BBLS	Vacuum truck recovered product; cleaned up area.	
98-038	No	OMCC W	1/29/98	Leak discovered at 1:30 p.m. 1/26/98. One hole leak was exposed in line 313 at 11:00 1/27/98 under 4 ft of dirt. The line was water washed by 13:00 1/27/98. another pinhole leak was located in the firewall area of TK502.	Line	Butane - 91 lbs	Line was removed from service until it can be replaced	Replacing all piping underground road crossings. There is an ongoing project to raise all underground lines.
98-039	No	OMCC W	2/3/98	Apparent thermal over pressure of Tank 1020 header.	Tank-header	Crude oil 1 BBL	Relieved the line pressure to a tank.	
98-041	No	SRU	2/13/98	E-3D1 reboiler developed leak. Started cutting steam to isolate. While steam was in system vapor was leaking. When steam was cut reboiler flooded and spilled over to ground.	Reboiler	Lean MEA (23% MEA/Condensate) to containment 175 gallons H2S 3.94 CO 2.35 VOC's 6.23 lbs /hr	Blocked in reboiler, will repair leak. Blocked MEA inlet and vapor outlet. CUT flame out. Opened dilution to MEA pump. 30 minutes.	Will repair shell on E-3D1. To other ... To W-1 allowing E-30112 reboiler to be taken DIL
98-044	No	ALKY3	2/18/98	Initial notification: Unloading HF truck; small flange leak developed. Actual: Blocked valve leaking through flange at the blind.	Truck-Blocked valve flange	HF-<5 lbs		
98-045	No	POWER 2	2/23/98	Flare 3 release resulted in a light oil overspray to vehicles parked at the clockhouse and NOB parking areas. Wind out of E/SE at 10 MPH. The area of impact was on site in the vicinity of the flare. The material released was gas-oil residual/condensate mixture. The amount released was less than one barrel; therefore, this event is non-reportable. Initial notification was made, as a courtesy, to GCHD and TNRCC to ensure compliance with environmental regulations.	Flare 3	Gas oil - (amount — )		
98-048	No	OMCC W	2/27/98	While switching lines an operator found a small leak on line 237 at Tank 53 Firewall.	Line	Diesel - 1 BBL	Line 237 was depressured to the tank. The gasket was repaired. All waste recovered the diesel and clean up of the affected area to be scheduled by the maintenance coordinator. Mr. Cantue will call back	Repaired gasket.
98-058	No	OMCC W	3/11/98	Operator found a gasket leak on line 614 at tank 64.	Line-Gasket	#6 oil - 2 BBLS	Blocked in preparing S-18. Garner notified to remediate what is on ground	Replace gasket.





# Oil History

## Section 1.4.3 Analyze the Potential for an Oil Spill

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Incident No.	Occurred	Unit	Date	Description	Equipment	Quantity	Measure	Remarks
98-059	No	OMCC MARINE	3/9/98	Due to a problem with the 801 line on 3/9/98, on 3/10/98 1 BBL crude oil spilled to ground.	Line	Crude oil - 1 BBL	Depressured the line, blocked in, clamped. No leaks on 3/11/98.	Contractor garner vacuumed oil. Pick up soil and hold till authorization to dispose in proper manner.
98-073	No	OMCC W	3/6/98	Line 436 Started leaking underground	Line	Light Slop 1 BBL	Stop using line 436 and blocked in line. Removing line from hydrocarbon service to allow installation of clamp	Plan in progress to replace line with new section.
98-078	No	OMCC W	3/28/98	Seal Fire; Confined to pump and pump pad	Pump seal	High Sulfur Gas Oil	Dry chemical-fire monitors, fire extinguished.	
98-091	No	SRU	4/29/98	Tail gas pipe leak	Pipe	H2S-50 lbs per day	Stop leak by banding on a piece of rubber to block the holes in the tail gas line.	Install full-encirculation clamp.
98-095	No	COKER C	5/5/98	Relief valve on F301A coke drum while cooling	Relief valve	Gas oil 1 bbl (309 lbs HC)	Took all cooling water out of drum to let pressure subside.	Reduce set pressure on computer when water is taken out. Complete installation of coke drum TTs for better profile. Board operator attention to rising pressure on drums.
98-097	No	ENV FAC	5/9/98	The discharge hose on the hydrocarbon recovery well no. 32 began to leak.	Hose	Hydrocarbon and water 1/2 gallon	The recovery well was shutdown and blocked in	
98-099	No	COKER/RD U Complex	4/28/98	Gate 26 coke spill to 14th Street. Coke spill from truck MC 116(Michael Tyler, MC Transport) From gate 26 to 14th street. Trail of coke. Larger quantity spilled at intersection of 5th Avenue and 14th Avenue.	Truck	Coke Fines-Small quantity	Truck took measures to cease coke spill. EH&S made arrangements to clean up spill to road.	



## Oil Spill History

INCIDENT NO.	CHANGED TO UNIT	UNIT	DATE	EXPLANATION	EQUIPMENT	POLLUTANTS	MEASURES TO MINIMIZE	MEASURES TO PREVENT
98-103	No	OMCC MARINE	5/18/98	The spool piece flange (reducer) connected to the barge manifold failed, resulting in a spill from the barge to the Galveston bay. Initial notifications were made as required to the SERC, GCHD, and the NRC to ensure compliance with environmental regulations. A copy of the Coast Guard report will be forwarded to you under separate cover. 6/16/98, it was indicated that a copy of the Coast Guard Report would be forwarded to your office under separate cover; however, a copy of the report could not be obtained since the incident did not involve Amoco. If a copy of the Coast Guard Report is still required by your office, Petty Office Blevins with the Coast Guard suggested that one can be obtained by a written request, under the "Freedom of Information Act Request", directly to their office: U. S. Coast Guard Marine Safety Office Commanding Officer RM 301 Post Office Building 601 Rosenberg Galveston, TX 77550-1705 Reference: Date, Time, and Location If additional information is required, please contact Ms. L. G. Kuchcinski, Environmental Engineer, Environmental, Health & Safety, (409) 945-1848 or Mr. J. W. Brough, Manager, Environmental, Health & Safety at (409) 945-1151.	Hose-flange	Benzene - Approximately 2 gallons	Hollywood Barge No H-1118 has taken responsibility for this spill.	
98-104	No	ENV FAC	5/20/98	Storm water header from LS's 1, 2, & 3 had a vacuum breaker that was leaking.	Vacuum breaker	Gasoline/Distillate 1/2 BBL	Storm header oos for repairs	Install block valves on other vacuum breakers in the system.
98-110	No	OMCC W	5/23/98	F 232 Benzene Cargo pump; after installing pump operator noticed drip on flange; mechanical seal leak on pump.	Pump-flange; seal	Benzene to concrete < 1 gallon	Blocked in; put cargo back up pump in service. Call Env Fac of wash to sewer.	
98-113	No	ACDPLT	5/28/98	Inlet valve broke to acid neutralization pond. H2SO4 backup to ditch (lined with fiberglass); overflowed to soil.	Inlet valve	Spent sulfuric acid > 8 gallons	Portable pump to ditch to pump water back to acid neutralization pond. Spread soda ash to affected soil. Sampled soil for PH levels.	
98-114	No	AU2	6/4/98	Cooling water line broke	Line	Caustic/Water (1% caustic)- 75 to 100 gallons	Barricaded and cleaned up	



## Oil Spill History

INCIDENT NO.	REPORTED TO/NO.	UNIT	DATE	DESCRIPTION	EQUIPMENT	QUANTITY	REMARKS
98-132	No	DDU	6/28/98	During ARU startup, line 727 developed an underground leak at the DDU manifold.	Line	LUF-2 BBLs	ARU depressure truck removed pr on water, work o was removed.
98-134	Yes	ENVFAC	6/29/98	Lost power at Lift Station No. 16.	Lift Station 16	Oil - 10 BBLs	Restored control station pumps. A was cleaned up i contaminated sol and will be dispo
98-135	No	ENV FAC	6/29/98	Expected 003 Outfall discharge	A-003	None-No sheen present	
98-139	No	OMCC W	7/7/98	Below Grade Pipeline leak.	Line	Low Sulfur Fuel Oil < 2 BBLs	Shutdown line. E to identify cause
98-141	No	OMCC W	5/23/98	Leak on F-232 pump	Pump	Nitration Benzene - < 1 gallon	Pump F-232 was blocked in. Put F service.
98-144	Yes	ENV FAC	7/1/98	The Environmental Facilities exceeded the WWTP permit parameter for BOD due to heavy rains and startup problems at the ARU.	WWTP	BOD Exceedence 9,408 LBS/D (limit 7,240 LBS/D)	
98-153	No	UU4	7/20/98	The J-413 compressor was shutdown for reactor regeneration. The compressor seal/lube oil turbine was inadvertently left in operation and filled J-413 compressor case. When the compressor was returned to service, seal/lube oil entrained the flue gas and was released to the atmosphere.	Standpipe atmosphere valve	Seal lube oil 70.3 GALS (Less than the reportable quantity)	Drained oil from c seal oil pots. App the affected road removed and pro remediated the gr soil.
98-161	No	PS3A	8/5/98	Oil water separator backed up and overflowed onto road.	Oil water separator	Gas Oil (Petroleum Exclusion) 1 BBL	Fire department c
98-162	No	OTHER	8/7/98	BFI (Darrel) hauling resid to Choc. Bayou leaked 1 gallon of resid through tailgate on concrete at Coastal Mart in Santa Fe.	Truck	Resid-1 gallon	Boom like materi leak to prevent le cleaned up with a material. Truck fl or Monday.
98-164	No	UU3	8/8/98	1" PVC line leaked bleach from cooling tower into containment area. (4" of bleach inside)	Line-cooling tower	Chlorine bleach 4" on containment area.	Leak repaired. Va being called to re into drums. Pos back into cooling
98-232	No	UU3	8/19/98	Bleach tank overfilled which caused an overflow to the container basin spilling to ground.	Tank	Sodium Hypochlorite (12%) 96 lbs	
98-235	No	OMCC W	9/3/98	Gasket leak on discharge of pump	Line-gasket	Regular gasoline < 10 gallons	Stopped flow
98-238	No	DDU 300	9/10/98	Popped relief valve diesel to pavement	Relief Valve	Diesel less than 5 BBLs	

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## Oil Spill History

Incident No.	Spill Type	Unit	Date	Description	Equipment	Concentration	Response	Remarks
98-241	Yes	ENV FAC	9/10/98	Exceeded O&G Permit limit.	A-003	O&G averaged 26.6 (limit 15mg/l)	Booms, samples taken	
98-242	No	PS3A	9/11/98	Lost packing on vacuum gas oil pump. Spilled liquid to concrete. No fire. W out of ENE at 20 mph.	Pump-packing	Vacuum gas oil (112J) to concrete		
98-245	No	OMCC W	9/11/98	<p>Tank 536 alkylate tank roof collapsed</p> <p>Amoco Petroleum Products, Texas City Business Unit, reported an alkylate spill from Tank 536 on September 11, 1997.</p> <p>During heavy rains, the external floating roof on Tank 536 partially submerged which resulted in a spill of three barrels of product to the firewall area through the roof drain. There was minimal impact to the soil due to the standing rain water in the firewall. A vacuum truck recovered the product from the standing water and there were no reportable air releases. Therefore, this incident is non-reportable.</p> <p>Initial notifications were made as required to the SERC and GCHD to ensure compliance with environmental regulations.</p> <p>If you have any questions concerning this spill, please contact Mr. E. G. Kryski, Environmental Engineer, Environmental, Health, &amp; Safety, (409) 945-1152 or Mr. J. W. Brough, Manager, Environmental, Health &amp; Safety at (409) 945-1151.</p>	Tank	Alkylate - < 5 BBLS to Firewall	Lowered tank level	Garner recovered oil from firewall
98-258	No	ENV FAC	10/4/98	Discharging out outfall 003 due to heavy rains. About 3" in last 3 hours. No sheen visible. Samples taken	A-003	Stormwater	Booms in place	
98-259	Yes	ENV FAC	10/4/98	003 Outfall Discharge	A-003	<p>10/4/98 22:25</p> <p>Oil &amp; 0.78.2</p> <p>mg/l 11mR 15</p> <p>mg/l)</p> <p>TQC.e0.3 (Penni</p> <p>11m/l 55 mg/1')</p> <p>101M18 01:20</p> <p>pH-9.1 (1'erm111m1</p> <p>U)</p>	Booms in place	
98-264	Yes	ENV FAC	10/7/98	Sewer upset.	process unit Sewer	Gas Oil 8 BBLS	The free liquids were	to

little contained in 101w11 be p'dCIU unit  
removed and disposed of pef30Mtl to pnrMnt  
property as per .b 8analyls h'droclrbn from  
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## Oil Spill History

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Spill ID	Spill Type	Unit	Date	Description	Equipment	Volume	Location	Remarks
98-273	No	SRU	10/13/98	Amoco Petroleum Products, Texas City Business Unit, reported a spill at the Sulfur Recovery Unit on October 13, 1998.  During 1988, the Triton meter, a hoM rvpnd. If filling unatr Wed procesa water to the ground. TN. Inot a heardcu wute, Itlef8fore ....nofH'epolllblalnddanl  Inftll nuU'l adlons ,macfe •• required to the SERC 8nd GCHD to enatn ccwupflauoe with envlonmental	Hose	Process Water-1000 gallons	Shutdown and blocked in transfer.	Better inspection of hoses.
98-275	No	COKER A	10/14/98	A relief valve on the inactive coke drum released a small amount. During the cooling cycle we had some coke carryover into the scrubber line and it partially plugged the system.	Relief valve	Gas Oil - 2.7 BBLS	Cut the cooling w the pressure start relief valve never. We just had a sm steam vapors that released.	
98-278	Yes	ENV FAC	10/18/98	Discharge A003 and Exceeded oil and grease permit limit. (Results received at 1:30 p.m. 10/19/98) It could be thllh refinery averages appwdn •lef' 4G-451nc:Me of rain annually, but we hne NIClelwd men than 2S Inc:hea of rain In just a 4Ckfy perlocL Our llDnnwater capacity 11 9 in of rain In a 24 hour period; however, that estimate ... that ballnt. stormwater tanks, and tank tnwa ... 8ft11CY It the beginning the rain ....nt.	A-003	Oil & Grease (limit 15 mg/l) 10/18/98 27.7 mg/l 10/19/98 34.0 mg/l 10/20/98 20.8 mg/l	Booms and absor were in place prior rain event. Game Environmental wa replace absorbent needed and to var contaminated wat Amoco is committ compliance with ti permit. To ensure accomplish this, w initiated inspection necessary, clean oil and water sepa could be washed i sewers during ext events.	
98-279	No	ENV FAC	10/19/98	Excessive rainfall caused a discharge at A003	A-003	Seen on A003 See 98-278		
98-289	No	Power 3	10/29/98	Spilled MEA to sump that goes back to the SRU (spilled near T-2 Tower at Power 3) overflow of T-2 Tower was cause.	Sump	MEA- 20% in solution, < 100 gallons solution	Washed it to llugt goes back to the SRU- 20% MEAS In 10111110n. 1euthan too pions total dillon.	
98-294	No	ACDPLT	11/9/98	Gasket from rail car manway was leaking upon arrival to TC Railroad Terminal.	Rail Car	98% Sulfuric acid 1 gallon or less to ground. Supervisor called at 14:15; determined material leaking was	... Mlnlmtz.e *1	Repaired Gasket





# Oil Spill History

## Section 1.4.3 Analysis of the Potential for an Oil Spill

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Incident ID	Spill Found	Unit	Date	Description	Equipment	Quantity	Remarks	Disposition
98-296	Yes	COKER A	11/10/98	Water was inadvertently lined up to F-101A coke drum. Drum overpressured and relieved to atmosphere.	Drum-relief valve	Coker Gas Oil (Resid) - 22 barrels H2S - 110 lbs	Tripped the furnace and put unit in circulation.	Considering a LOTO and checklist procedure based on current SOI's.
98-311	No	OMCC W	12/14/98	Small pin hole leak on the slop oil line 308 near pipestill cooling tower. Light mist mostly water misting out.	Line	Slop oil < 1 bbl	Work order #C13184 issued to make repairs or clamp the line.	
98-322	No	FCCU3	12/27/98	Packing failed on 3/4" primary sample point block valve at 409-E	Block valve-packing	MEA 50 gallons	Unit personnel bypassed PP Treater system and tightened packing on the leaking 3/4" valve.	
98-323	No	RHU300	12/27/98	Product seeped out of packing into insulation around valve igniting the insulation. Fire was put out immediately	Line-valve	Resid	Blocked in and bypassed valve.	Keep packings tightened more securely
99-002	No	PS3B	1/3/99	Fire at Pipestill 3 B resid line to coker fire out at 12:37 all clear at 1:04 p.m.	Line	Resid	Plant fire department responded.	
99-003	Yes	OMCC W	1/6/99	A leak was discovered, in an area at a clamp, on line 445. The leak was discovered during an investigation to find the source of oil in Lift Station No. 5. The high oil was detected during refinery stormwater sampling performed 1/2/99. The leak flowed approximately 15' to an area drain.	Line-clamp	Light slop (oil/water) 8 BBLS	The line was blocked in and the clamp was replaced. The area of the spill is being cleaned up and a sample of the impacted soil was collected and sent to a third party laboratory to determine waste classification. Once soil sample results are available, all contaminated soil will be properly disposed.	
99-004	No	OMCC W	1/5/99	The external floating roof on Tank 530 tipped at an angle allowing liquid above the roof. It is estimated that 15' dia. of gasoline was present.	Tank	OPRG Reformulated gasoline.	Vacuum trucks were called out to remove the material from the roof.	
99-008	No	UU3	1/11/99	318 J flue gas circulator discharge pipe failed. Lube oil sprayed onto concrete to area drain.	Pipe	Lube oil 150 gallons (~ 3 BBLS)	Blocked in line.	
99-014	No	SRU	1/18/99	Hole in bottom of amine tower (lean MEA at bottom); small drip. Wind NNW 5 mph	Amine Tower	Lean MEA 3-5 gallons to concrete and washed to sewer.	Tower taken down from 1500 gal to 400 gal circ.	
99-015	No	PS3A	1/19/99	Tank level high; overflow to ground	Tank	Caustic (15% solution) - 3 BBLS	Added water	
99-019	No	OMCC W	1/25/99	Gasket blew out on strainer at HUF pump station located on Ave G between West 2nd and 3rd St.	Pump-Strainer Gasket	Heavy ultraformate - 10 gallons	Pump was immediately shut down and line was blocked in	



## Oil History

### Section 1.4.3 Analysis of the Potential for an Oil Spill

Incident No.	Oil Spill	Unit	Date	Description	Equipment	Quantity	Remarks
99-020	Yes	PS3A	1/28/99	A block valve failed, causing oil to overflow through the gearbox and into the cooling tower cell. The oil and the updraft of the fans resulted in a fine lube oil mist.	Cooling tower fan gearbox	Approximately 2.4 BBLS of lube oil overflowed into the cooling tower. It is estimated that 75 gallons was emitted to the atmosphere. (This is below the Reportable Quantity of 5 BBLS, and is being reported because it impacted the community.)	Blocked in
99-021	No	OMCC W	1/28/99	Line 369 C flange south of FCCu1 manifold was leaking.	Line-Flange	HCN-5 gallons to soil	Blocked line in an due to sun pressu 199 on TK 181 to pressure flange.
99-022	No	OMCC W	1/30/99	While collecting sample for tank 130, standing oil was discovered in side of Firewall of TK 127	Tank FW	LCCO- 21 gallons	
99-023	No	PS3A	2/5/99	Amoco Petroleum Products, Texas City Business Unit, reported a leak at Pipestill 3A on February 5, 1999. A maintenance crew working on an exchanger bent a 3/4" nipple, creating a crude oil leak. Water was sprayed on the leak while the unit was shut down. The exchanger was repaired and the unit brought back onstream. Approximately eight barrels of crude oil were released onto secondary containment. The oil was recovered in the unit oil/water separator and reprocessed. In addition, there was no impact to the community or neighboring facility. Initial notification was made as a courtesy to GCHD and TNRCC.	Exchanger-nipple	Crude oil 8 to 9 BBLS to conc:1Wit. w.tlecl 10 P'OCIIIMW8f.	Water spray imme applied to minimiz Shut unit down
99-024	No	ENV FAC	2/6/99	Found spill at filter press 620 tank to gravel in firewall. Caused by computer outage that occurred 18:30 Friday. Computer was brought on line at 23:00. Computer gave wrong signal, so spill not seen until rounds at 06:45 Saturday.	Tank FW	Light Coker Gas Oil < 5 BBLS	Washed down to sewer and sump.

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**Oil Spill History**

INCIDENT ID	QUANTITY APPROXIMATE	UNIT	DATE	DESCRIPTION	EQUIPMENT	CONTAMINANT	MEASURES
99-028	No	ARU	2/10/99	Discharge hose on an air piston pump broke. The pump is located on top of 661F lube oil reservoir.	Hose	Industrial oil #68 - 10 gallons	Most of the oil fell into the area and was vacuumed up. The pump was isolated and standing oil around the pump was vacuumed up. The soil was scooped up and placed in a barrel. The barrel was disposed of properly (EH&S). The pump hoses were replaced.
99-031	No	CFHU	2/15/99	Split in the inlet elbow piping to the 528 FB Spent Silo.	Pipe-elbow	Diesel and catalyst slurry (some HVGO) Primary 4-5 BBLS To concrete 1 BBL	Took silo out of service to alternate silo. water washed area to process sewer.
99-037	No	ARU	2/25/99	Lube oil supply line to overhead fan 632-09 ruptured causing approximately 20 gallons of #68 oil to spill to the soil below.	Line	Lube Oil No. 68.- 20 gallons	Initial response was to isolate the fan and isolate the line.
99-038	No	OMCC W	2/25/99	Line 308K from PS3A's G-4 Drum developed a pin hole leak overhead at east 5th and Ave F. Utilities operator reported the leak.	Line	Light slop - < 1 BBL	

(continued)

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UNIT	DATE	SUBSTANCE	EXPLANATION	EQUIPMENT	POILUTANTS	MEASURES TO MINIMIZE	MEASURES TO PREVENT
OMCCW	3/11/1999	High Sulfur Gas Oil	Line leak.	Line 1218	High Sulfur Gas Oil - 20 BBLS (5 BBLS to Soil; 15 BBLS recovered)	Gamer Environmental called out for clean-up. Spilled gas oil sprayed with foam and water. Affected section of line was replaced.	Containers placed under line leak and contents recovered by vacuum truck. Sample of contaminated soil collected and tested to determine proper disposal. Contaminated soil will be excavated and treated at the BPA moco LTF
ULC	3/30/1999	Naphtha	Pinhole leak on Ultracracker flare line	Flare line	Naphtha-21 gallons	Cleaned up soil	
ENVFAC	4/6/1999	Oil/Water	S-38 A check valve failed causing pump S-38A to turn backwards. Pump S-38A was shutdown and pump S-388 was put in service. A couple of hours later, Separator #2 was overflowing to concrete curbed area.	Separator 2	Oil/Water Oil - 4 BBLS Water-15 BBLS	Placed pump S-38A back in service, pumping down level in separator.	
OMCCW	4/8/1999	Fuel Oil#6	Small leak of oil from steam coil connection on Tank 41	Tank 41	Fuel Oil #6- 21 Gallons	Lowering level in tank. Removed contaminated soil.	
OMCCW	4/8/1999	Crude Oil	Small leak in line 806 below grade.	Line 806	Crude oil - 30 gallons	Excavating line and will remove contaminated soil.	
m.ccw-	4/9/1999 <sup>1</sup>	Gasoline	Line leak at West 1st Street behind knock lab building	Knock Lab Building	oline 20 Gallons	Identified leak and isolated line for repairs.	
OMCCW	4/10/1999	Crude Oil	Tank mixer leak.	Tank Farm Area	Crude oil- 2 BBLS	Maintenance to check out tank mixers for leaks and repair. Vacuum truck called out to recover free standing oil and work order #C22938 issued for soil clean up and proper disposal.	
OMCCW	4/14/1999	Water/Light Slop Mixture	Line 164 developed a flange leak.	Line 164	Water/Light Slop Mixture	Placed small wash tub under leaking flange. Roped off area. Work order #C23302 Issued for necessary repairs and clean-up.	



POWER3	4/16/1999	Diesel Fuel	Amoco Fuel truck had been fueling at Power 3 when a 1 1/4 fuel line blew off the meter system causing fuel to leak onto Ave. F.	Meter system fuel line.	Diesel Fuel - 5 gallons to soil	Belly valves on truck closed. Sand spread over diesel fuel to prevent slippery surface and eliminate any other contamination. Sand was picked up and loaded into roll off box.	
OMCC Marine	4/20/1999	Benzene	A benzene loading hose ruptured at dock 32. Approximately 15-18 BBLS spilled into the closed sump system. The cargo load was stopped immediately after the hose ruptured.	Dock 32- hose ruptured.	Benzene- 18 BBLS to Closed Sump System. Benzene volatilized - 5 lbs	Dock t-head washed down immediately to flush out sump P-Trap. Cargo load shutdown immediately by emergency shutdown system. All personnel in vicinity immediately notified and respirators were worn during the flushing and	
RHU/Complex	5/11/1999	Heavy Oil Resid)	CFHU relief valve release to atmosphere.	Relief valve	Resid/Hvy Oil-30 gallons	Depressured, relief valve pulled	
COKER C	5/27/1999	Heavy Gas Oil	The scrubber MOV malfunctioned causing coke drum F-301A relief valve to lift to atmosphere.	Coke Drum Relief Valve	Heavy Gas Oil - 3.5 BBLS (This is below the Reportable Quantity of 5 BBLS; however, it is being reported because it impacted the community)	Removed steam from coke drum. Aligned north and south drums together to relieve pressure.	Repaired H-317A (Scrubber) MOV.
OMCCW	6/7/1999	High Sulfur Gas Oil	Two small pin hole leaks discovered on line 1254 (discharge gas oil dewatering pumps)	Line 1254	High Sulfur Gas Oil and Water - 30 gallons (from primary and secondary to concrete)	Two clamps put on line already. Project in engineering to replace section of pipe. Vac truck called for clean-up	Engineering project to replace section of pipe.
OMCCW	6/24/1999	Light straight run gasoline	A leak developed on an existing line near LC9 pump station.	Line	Light Straight Run-Sol Gasoline - 30 gallons	Source of leak was identified (line 601) and line blocked in and water washed.	Replaced bad section of pipe where leak originated.
OMCCW	7/6/1999	AR Gasoline	Diaphragm on pressure regulator ruptured.	Knockout lab proto drum area	AR gasoline 30-35 gallons	Blocked in regulator and applied water to spilled AR gasoline.	
OMCC Marine	7/9/1999	Light Crude Oil	Release at Dock 41. The vessel Martinia was discharging crude oil and developed a leak on a vent located on the ship's manifold, spilling approximately 10 liters of crude	Dock 41	Light Crude Oil - 2.64 gallons	Flange manually tightened to stop the leak.	Improved attention to piping tightness before unloading cargo.

FCCU3	7/12/1999	Gasoline	Cat 3 gasoline release. Air emissions minimal		Gasoline - 2.38 BBLS from primary source. Did not escape secondary	Temperature was approximately 120df, and they hit it with a fire monitor immediately.	Order written #C31085 to
OMCCW	7/24/1999	Diesel	Line 1201 West of #3 Cat	Line 1201	Diesel 40 gallons containment.	Pipefitter tightened up flange and the leak stopped. Also tub was put under leaking flange.	n up the stained soil.
PS3B	7/26/1999	Naphtha	Crude tower and stripper tower. Some vapor and some liquid.	Line	Naphtha-.2 BBLS		
OMCC Marine	7/26/1999	Slop Oil	US Coast Guard issued a warning for this spill to our contractor, Tom-Mac. BP Amoco submitted a spill report describing the spill, actions taken, and agencies notified. Amoco eventually named as responsible party.	Dock	Slop oil 5-10 gallons	Garner called to clean up.	Garner was called to clean up.
OMCC Marine	7/27/1999	Diesel	Fuel line for J-16 firewater pump developed a pin hole leak in tubing.	Fire water pump fuel line	Diesel - 2 gallons to containment	Line blocked in at fuel tank. Work order written to replace fuel line and clean up area.	
FCCU3	7/27/1999	Diesel	One leak from tank to pump	Pump	Diesel 2 gallons		
CFHU	7/31/1999	Hydrotreated Gas Oil	Hydrotreated Gas Oil: 700 barrels CFHU	Tank 1004	Diesel/Gas Oil 700 BBLS	Malfunction of high level alarm on Tank 1004. Tank 1004 high level alarm repaired. In addition, startup procedures being evaluated to include a step to verify level in Tank 1004. Also, unit personnel are evaluating the pre	Reduced level; vacuum trucks called out: will remediate soil
PS3B	8/11/1999	Disulfide Oil	Small leak on an underground line	Underground line	Disulfide Oil < 2 BBLS	Clamped line and cleaned.	
OMCC Marine	8/6/1999	Cutter Stock (#60 oil)	Incident occurred on black oil prover skid. OMCC was making a line wash to docks and back to refinery, but failed to open block valve to receiving tank.	Underground Sump	Cutter stock: 5 BBL to Sump 20 gallons to concrete 1 gallon to white rock ground area.	Line wash was stopped immediately. Asset coordinator notified. Garner Environmental called out to clean up area.	Investigation initiated.



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COKER C	8/8/1999	Vapor/Heavy Oil/Resid	Relief valve lifted due to suspected floating crust during normal cool down.	Relief valve	Vapor/hvy oil and resid (Affected coker area only. Did not leave the refinery)	Shutdown cooling water pumps and relief valve resealed	
	8/10/1999	Hydraulic Fluid	Hydraulic hose on BFI truck broke which resulted in a spill of hydraulic fluid to ground.	BFITRUCK	Hydraulic fluid - 1 gallon	Isolated hose	cleaned up
RHU/Complex	8/11/1999	Trace heavy naphtha	An overspray occurred when operations was 02 and water injection line freeing chemical injection line to 501-F overhead.	Chemical injection line	Water, chemical, trace hvy naphtha vapor -1 BBL	N2 was started into chemical injection line at 160 psi to initially push out any liquid. Once gas was present, N2 to line was cut back to hold a slight purge on line for 02 freeing.	
OMCCW	8/12/1999	LCCO	Line leak in high pipe rack north of Coker A cooling lower.	Line	LCCO-10 gallons	Line identified, isolated, lotto'd, and repaired.	
OMCC Marine	8/14/1999	Heavy Raffinate	Flange gasket leaking on 804 line, south of secondary ESD valves going to Dock 37/38	Line 804 flange gasket	Heavy Raffinate 5-10 gallons	Valve closed and lotto'd. Line depressured at dock 37/38. W.O.Wto replace gasket and clean soil #C32454	
CFHU	6/20/1999	Oil	A couple of roll-off boxes storing spent CFHU catalyst were observed leaking oil onto soil.	Roll off boxes	Oil- 21 gallons		
UU3	8/20/1999	Oil	A bucket of oil was observed at the outside, west side of the warehouse. Bucket was spilling over onto concrete	container			
ENV FAC	8/20/1999	C.-	Oil was observed leaking from two Hugh Patrick roll-off boxes (#99631 and #99722) located south of the SOU. Most of oil was on concrete pad, but part of oil (perhaps 3 gal) had run across soil to an area drain.	SOU	Oil 20 gallons		
OMCCW	8/23/1999	IVN	Spill to soil	TK 1009	IVN 15 gallons	Clean up	

OMCC Marine	9/1/1999	Virgin Gas Oil (VGO)	The Virgin Gas Oil (VGO) drain valve was left open due to operator error which caused sump to overflow and overflow to Galveston Bay. Sump high level alarm malfunctioned and pumps did not start on auto.	Dock 34	Virgin Gas Oil (VGO) • 15 bbls	Drain line was closed. Garner Environmental recovered oil. Level alarms checked and repaired. Sump pump auto start checked.	
UU3	9/10/1999	Light/Heavy Slop	No circumstance - leak due to underground line deterioration.	Line	Light slop - 5 gallons	Light and hvy slop line was isolated.	Line replacement will be above ground for visual inspection.
OMCCW	9/20/1999	Diesel	Bonnet gasket on PS3A common diesel feed line to DDU's outside battery limits leaked due to dead leg thermoexpansion.	PS3A common diesel feed line to the DDU's	Diesel 15 gallons	Lined up header to 200 feed surge drum to relieve pressure.	
ARU	9/23/1999	BTX/Sour water	Spill at 605 F overhead accumulator	605 F Overhead accumulator	BTX/Sour water (from primary to containment; recovered to the refinery process sewer)		
ULC	9/24/1999	LCCO	Malfunction of high pressure sensor produced false level indication causing a relief valve to release to flare. Surge from relief valve release resulted in liquid carry over from blowdown drum to flare. The debris from t	Flare	Hydrogen/Diesel-LCCO-Approximately 4 BBLS (Overspray outside of Refinery fence line)	Unit shut down and pressure lowered. Grass fire extinguished.	High pressure sensor repaired
OMCCW	10/7/1999	Cetane A hole improver PFR-1347	A hole developed on tank 3041 (small chemical additive drum).	TK3041 small chemical additive drum	Cetane Improver PFR-1347- 1 gallon to concrete pad	Transferred Tank 3041 contents to Tank 3043. Water hose on affected area to process sewer.	
OMCCW	10/12/1999	Light slop	Leak on light slop line 608.	Line 608	Light slop- 5 gallons	Isolated line 608 at 05:15.	Clean up; excavating dirt.
OMCCW	11/1/1999	Benzene	A leak developed in tank 112 floor. Tank was immediately taken out of service for repair.	Tank 112	Approximately 10 gallons of benzene leaked to soil around the perimeter of the tank. The air emissions as a result of purging the vapor space for vessel entry are estimated at 230 lbs.	Personnel immediately added water to tank to float benzene on a water layer. Once water layer established, tank was deinventoried. Contaminated soil was removed and property disposed of.	The tank will be inspected, repaired, tested and returned to service.

OMCCW	11/18/1999	Gas Oil	Piece of tubing on seal flas cracked and sprayed gas oil on concrete pad.	Cargo pump	Gas Oil 10 gallons (to Concrete Pad)	Cleaning spill to concrete; shutdown pump and blocked in to repair tubing.	
OMCCW	11/14/1999	Heavy Ultracrackate	Line 779 leak to containment and ground.	Line 779	7 bbls of Heavy Ultracrackate. The majority of this material was released on containment and recovered in the unit process sewer. Approximately 1 bbl of HUG was pushed off containment to ground when fire water was applied to the spill.	Isolated line 779. Recovered majority of product in unit process sewer. Contaminated soil removed and transferred to refinery land treatment facility.	Replaced section of thin pipe under manifold. All lines at manifold are being inspected.
ULC	11/24/1999	lean Oil	P2019 low pressure separator level control failed at ULC-vRU which upset ROD tower resulting in lean oil carryover to blowdown stack. Additional upset to tower caused from possible water entrainment resulting in temperature and pre	Blowdown drum	Lean Oil - 4.2 BBLS (oil mist).	Started blowdown pump. Opened bypass to relieve pressure, diverted ROD tower material to another source (fuel).	Repairs were made to level Indicator. The plugged tap on the I2011 boot will be repaired during next TAR.
COKER A	1-11/8/2000	Cold oil	line failure. Oil spill to soil				
ALKY2	11/17/2000	K-1 seal oil	Seal leak on K-1 Compressor.	K-1 Compressor	K-1 seal oil 3 gallons	PSG deaunp. Sampled; non-hazardous (land Treatment Facili K-1 tripped off. Operator re-established level in sour seal oil pot and k-1 restarted.	
OMCCW	11/17/2000	LCCO	Thermal expansion caused gasket at blind flange to blow out. Spilled an estimated 4-5 BBLS of oil from 604 inside Tank 45	Tank 45	LCCO-4 BBLS	Opened line up into empty tank to depressure line. Replacing gasket on flange. Vacuum truck recovering oil.	Replacing existing gasket with ttextatalic gasket.
COKERC	2/1/2000	Resid/Fushing Oil	Isolation valve to main control valve failed.	Isolation valve failure	esid/Fushing Oil- 50 BBLS on cement slab.	PSG recovering product.	
COKER A	2/26/2000	Gas oil	coke drum overpressured during the cool down cycle. Computer control reacted property but		Gas oil - 4.2 gallons	Shutdown cooling water pumps after computer control had shutdown waterflow.	isting cokedrum cooling procedure is in place and being followed.



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OMCCW	31912000	High sulfur gas oil	Tank 60 overfilled and spilled into firewall while ship discharging into it. Spill discovered by operator making rounds. Control room tank gauge and independent high level alarm malfunctioned.	Tank 60	High sulfur gas oil - 60 Bbls	Stopped filling tank immediately upon operator discovery. Gravitated contents of Tank 60 to another tank. Called out vacuum trucks to remove product from firewall. Soil being remediated to background level and taken to land treatment facility.	Repair control room tank gauge and the independent high level alarm.
OMCC Marine	3/11/2000	Hydraulic fluid	Crane hit hydraulic hose causing hydraulic fluid to spill to water at Docks 33-34.	Hydraulic hose	3 gallons hydraulic fluid	Crane shutdown & oil sorbent/repair. Gamco Environmental responded for cleanup.	Repair hose fitting.
OMCCW	3/12/2000	LCCO	Opened and depressured line to tank when bonnet squirted oil.	Bonnet	light cat cycle oil - <1 barrel	Bonnet to be tightened.	
OMCCW	3/16/2000	LCCO	Gasket line leak on Line 60 while transferring LCCO from tank 6 to tank 5.	Gasket on Line 60	1 Bbl of LCCO	Took line out of service & put wash tub under leak.	Repair gasket.
PS3B	4/11/2000	Desalted Crude	419 CA opened up at channel head to shell	419CA	Desalted Crude -1.5 BBLS	Reduced "B" train pressure and had pipefitters tighten studs.	
OMCCW	4/15/2000	Oil	About 2 gallons of oil floating on water in tank 1046 firewall. Appears that oil came from roof of tank 146 and entered firewall via roof drain.	Tank 1046 Firewall	Oil - 2 gallons	Vacuum truck picked up oil in firewall and then removed oil from single deck roof. Single deck will have to be cleaned and inspection will determine source of oil.	
FCCU1	4/11/2000	Fractionator Bottoms Liquid	Operator left vent open on pump when it was	Fractionator	Fractionator bottom's liquid (slurry)	Operator immediately closed bleeder.	
PS3B	4/12/2000	AGO	AGO line started spraying out north of PS3B CFT.	AGO line	AGO-21 gallons	Shutdown 410-J pumps & isolated line.	
ODU	5/19/2000	Diesel/Water	Steaming out air fan.	Air Fan	Diesel/water overspray mist- 4 GALLONS	Stopped steamout at 05:00	
DDU	5/20/2000	Diesel/Water	Line opened for blinding. Flange on line then closed and tightened so that line could be steamed out. When steam was introduced, two barrels of diesel leaked from flange which had not been sufficiently tightened.	Piping	Diesel/Water- 2 BBLS	Isolated piping.	PSC Cleanup

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OMCCW	512412000	Slop	ank 1055 FW drain open; sewer backup - possibly from heavy rains on 5119 & 5120.	Tank 1055	Slop	Work order created for cleanup.
OMCCW	512512000	Sewer backup	TK 1025 FW Drain open; sewer backed up in firewall due to heavy rains	FWTK 1025	Oilwater 314 BBL (31.5 gallons)	PSC cleanup
ISOM	61112000	IC4, 1C5 & F-6	drum (caustic disposal)	IF-6 drum	"2-SQaiiOns of IC4. ICs & caustic to concrete sewer)	
RHUIComplex	61812000	HVGO	Packing blew out spilling HVGO onto concrete.	Packing	Heavy Vac. Gas Oil - 1 BBL	PSC called for clean-up
OMCCW	611012000	Slop oil	Line 644 developed leak at point where line rested on an at-grade pipe support. Pipe was corroded	OSBL S of FCCU3	Slop oil - 35 gallons	Notified units on East Plant to get out of slop line #644 and moved vacuum truck to leak location to clean up.
OSBL	611412000	Light slop	Line 420 operator notified supervision of leak in light slop to PS3A.	Line 420	Light slop 1 gallon	Line 420 blocked in. Fire hose connected to wash line. Clamp installed and work completed.
OMCCW	612112000	Oil	Underground open ended abandoned line leak.	NTK60 Firewall	Oil- 2 BBLS	PSC sucking out line. Clean up contaminated soil and rock. Clean out line and fill with concrete.
PS3B	612712000	Naphtha	Clamp leak on crude tower pumparound. Naphtha leaked onto secondary containment (concrete). Naphtha recovered in unit process sewer.	Crude tower pump	Naphtha - 1 BBL	Team Inc. pumped clamp to stop leak; Naphtha was sewer.
FCCU1	71212000	Lube oil	Leaking weld in lube oil to J-1B turbine bearing.	Weld	Lube oil 12 gallons	Secured piping to prevent separation of pipe from blower. Plans being developed to make a permanent repair.
DDU	71412000	Diesel	Pressure gauge failure on 200 train	C-209 exchangers	Diesel blending base - 12 BBLS (10 BBLS to concrete; 2 BBLS to atmosphere; less than the reportable quantity of 5 BBLS, however, it is being reported because it impacted the community)	Shut down reboiler pump & Review shutdown procedures compressor.

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RHU/Complex	7/5/2000	Diesel slurry	528-FC spent inventory vessel showed 60% and in purple. As operator going up to strap vessel. he noticed oil level was high enough to burp and cause this release.	528-FC Spent inventory vessel	Diesel slurry - 20 gallons ( 1 quart to atmosphere)	Once outage was determined. steps were taken to drop level in 528-FL. Outage was 3 feet. There is also an overflow pipe which goes to sump.	
OMCCW	7/6/2000	Crude Oil	Sump backed up on concrete pad around crude charge area due to T-7 pump p failure.	T-7 pump	Crude Oil - 65 BBLS	Vacuum truck called to vacuum out sump. No oil to ground.	
i=CCU3	7/8/2000	Slop	Slop from flare knockout drum. Slop was diluted with water.	Knockout drum	Slop <1 qt.	Cleaned lme, pulled spool piece, repaired leak.	
OMCCW	7/19/2000	116 fuel oil	Tank 41 overflowed due to failure of remote tank gauge and failure of independent high level alarm.	Tank 41	1#6 Fuel Oil - Approx. 50 Bbls (contained within earthen dike area.)	Flow was immediately diverted to another tank to stop overflow. Gauge and level indicators being repaired. Free liquids picked up by vacuum truck and transported to onsite separator for recovery. Impacted soil is being removed.	Using another tank while the gauge and level indicators are being repaired.
OMCCW	7/26/2000	LCCO-Reboiler Oil to UU3 & UU4	Pinhole leak in line 756. Reboiler oil to UU3 and UU4 at 2000 south pipe rack. southwest of Power 3.	Line 756	LCCO-Reboiler oil to UU3 & UU4	Line was blocked in and maintenance installing temporary clamp.	
FC	1/2000	Gas Oil	Main fractionator had bad level indicator. Level indicated equipment was empty. When opened. oil spilled to pad and was recovered in unit sewer. No soil or ground water contact.	Main fractionator level indicator	Gas Oil - 20 BBLS to containment and process sewer.	Unit personnel did not anticipate that much oil to drain from fractionator. Thought it was residual side wall oil draining down. As oil kept draining, they determined level indicator was plugged. Pinched valve back, keeping a sma	
PS3A	8/4/2000	Raw Crude	Inlet to Desalter line leak to containment.	Inlet line to Desalter	Raw Crude 20 BBLS	Washed raw crude to process sewer. Shutdown unit to find leak and repair.	
RDU	8/11/2000	Decanted Oil	Valve body of bypass around check eroded from inside-out and caused a pinhole leak. (602-J west pump)	Valve	Decanted Oil - approximately 2 BBLS	Blocked in suction and discharge valves.	

RDU	8/12/2000	Decanted Oil	By-pass on F9716 started leaking on valve packing.	Valve packing	Decanted oil - 5 gallons	By-pass valve packing tightened and leak stopped.	
COKER B	8/18/2000	Resid	Feed control valve piping failed resulting in 60 bbl resid spill and subsequent fire.		Visible emissions from the resid fire for approximately 50 minutes. (13:20 - 14:10) Resid- 60 bbls onto containment (Concrete)	Unit shut down and emergency response personnel extinguished fire. Resid recovered and properly disposed of. Piping and feed controller to inlet of furnace were replaced. Additional inspection of similar	The piping and feed controller to the inlet of the furnace were replaced. Additional inspection of similar equipment is underway.
OSBL	8/25/2000	Raffinate	Hydrocarbons were observed leaking from line 2820, ARU Raffinate to ISOM. Leak was coming from coat and wrapped area where line went underground. Area showed severe external corrosion.	Line 2820	Raffinate-4 BBLS	ARU and ISOM C C p ers	Consider resuming the idled
COKER A	8/28/2000	LCCO	Gasket on blinded line started leaking on "A" manifold. Pipefitters tightened loose bolts on flange, leak was stopped.	Flange	1-CCO - 2 quarts	Operators blocked in LCCO to line. Pipefitters found bolts loose on flange and tightened bolts. Oil spill on concrete was changed up by putting cat litter sand on it. Put in plastic bags and tagged for disposal.	
COKER B	8/28/2000	Seal Oil (LVGO from PS3B)	Downstream disc flange on J-201 east started leaking.	Disc Flange on J-201	Seal oil (LVGO from PS3B) - 3 BBLS (to concrete)	Operators started blocking in suction to isolate leak. Spill material on concrete recovered in process sewer. (OWS/DWS pump	
OMCCW	9121200b IFI		Leaking fuel pump on #3 Separator's diesel pump	Fuel pump	Diesel fuel - 3 Bbls	Diesel pump was immediately shutdown, fuel pump isolated, vacuum trucks called out to collect free standing diesel. Contaminated soil collected and placed in screen trash bin at unit	

COKER B	9/6/2000	LCCO	Hot oil tracing line inadvertently cut by contractor who thought it was a steam line causing LCCO to spill to pad.	Hot oil tracing line	LCCO - 5 BBLS to concrete	Depressured system and installed block valve to stop flow.	
ULC	9/9/2000	Desulfurized LCCO Product (Seal Flush for Hot Pumps on VRU)	During round operator found 121-J Rod Bottoms Circulation Pump inboard seal flush due to it being cool, having no light ends characteristics of Rod Tower Bottoms and when isolating pump, the leak stopped when seal flush supply was isolated.	121-J Rodbottoms Circulation Pump Inboard Seal	Desulfurized LCCO Product (Seal Flush for Hot Oil Pumps on VRU)-4 BBLS	Asset operator notified board operators and other Asset team members via radio, switched to 121-JA, and proceeded to shutdown and isolate 121-J pump.	
OMCCW	9/21/2000	HSVGO	rk 4002 middle sample valves were inadvertently left opened and oil spilled into firewall area.	Sample valves	HSVGO 4.5 BBLS	Valves were closed and vacuum truck called out to start picking up the oil.	
OMCCW	9/22/2000	Gas Oil	Sample spigot left opened.	Tank 4002	Gas oil 4.5 BBLS	Spill material being picked up	
OMCCW	9/27/2000	Gasoline	A-1232 Sample System sustained substantial leak of gasoline product shortly after blend was started and system was pressured up. Leak due to gasket seal failure. #2 Blender had been shut down since 9/26/00 at 22:31. It was restarted on 9/27/00 at 1	A-1232 Sample System	Gasoline- .5 gallon to Concrete (Washed to dirt area)	System blocked in.	Filter and gasket were removed for inspection, evaluation, and photographing. Replaced with new filter and gasket. Will contact supplier regarding failure and verify no change in gasket material compatibility has occurred with gasoline product.
PS3A	9/29/2000	Oil	blowdown. Repacking PS3A (several pieces of equipment isolated or line up to PS3B) Blowdown system overpressured and 3-4 BBLS came out of seal pit.	Seal pit	Oil - 4 BBLS (to concrete)	Vacuum truck up to pick oil. Residual washed down process sewer.	Replacing 3-A blowdown. Lots of line up changes. Dumping 310-F and
PS3B	9/29/2000	Oil	Blowdown system was overpressured and 3-4 bbls of oil came from PS3A seal pit. This is a result of replacing the blowdown stack, and many pieces of equipment had to be taken out of service or lined up to PS3B.	PS3A pit	Oil 4 BBLS	New blowdown stack to be in place this weekend and systems will begin to return to normal line-up next week.	



PS3A	10/4/2000	Slop Oil	Removing last blind to install new blowdown drum. Vacuum truck was removing slop from main blowdown header. Operator opened drain to verify header clear. No product came out. (Also truck had picked up 1/2 load). When blind was loosened, slop oil came out	Blind	Slop oil - 3 BBLS	Product was hit with a fire monitor and recovered in process sewer.	
POWER3	10/5/2000	Hydraulic Oil	While an I/E tech was calibrating a pressure transmitter on 307D hydraulic system, plug on transmitter header block blew out, spraying hydraulic fluid to concrete.	Transmitter plug	Hydraulic Oil - 40 Gallons	Shutdown hydraulic pump which in turn tripped 307D steam turbine generator. This immediately stopped the hydraulic oil leak.	
OMCC Marine	10/10/2000	Mayan Crude	Dock 41 - Spill caused by a pinhole leak in a transfer line.	Transfer line	Crude-1 gallon	The transfer line was taken out of service and repaired. Garner Environmental responded for cleanup.	As a result of the pinhole leak, a parallel line at neighboring Dock 40 was also inspected and repaired at the same time. In addition to the maintenance work, the superintendent held a meeting to review all dock perations.
PS3A	10/12/2000	Diesel	Contractor hydroblaster cut into diesel rundown line.	Diesel rundown line	Deisel- 21 gallons to concrete	Water washed to process sewer.	
POWER2	10/11/2000	Oil	Pump J-803 seal leaked.		30 BBLS of material was reported as spilled; after further investigation it was determined that of the 30 BBLS, only 1% was light oil (approx. 3 BBLS) and the remaining amount was process water; therefore, there is no reportable exceedance. Initial noli	Flow diverted to another pump and J-803 pump was blocked in. Phillips Services (PSC) recovered the free liquids. The contaminated soil and rock were removed and will be properly disposed upon verification of sample analysis	Repair pump and replace gasket with a different metallurgy to inhibit corrosion of the pump.
ISOM	10/18/2000	Seal Oil	J-203 tripped off, 100 gallons of seal oil spilled to concrete and then to sewer.		Seal oil - 2.38 BBLS (to concrete)	washed to sewer.	

OMCC-Marine	10/19/2000	Slop and water	Dock 38 - Spill caused by a pinhole leak in a small drain line on the dock T-head.	Drain line	1 cup - slop and water	The line has been patched and tested for leaks. No further leakage was found. Gamer Environmental responded for cleanup.	A permanent repair/replacement of the drain line will be completed by early December. In addition to the maintenance work, the superintendent scheduled a meeting to review all dock operations (see October 10 spill description above).
FCCU2	10/21/2000	Seal oil	RETRACTION: This incident is not reportable. The HCN (naphtha) flow fell from 9,500 bbl to 3,000 bbl going out 607 line to FCCU 1 treaters. As a result, gasoline splitter filled and relief valve opened for approximately 10 seconds.	Splitter Tower Relief Valve	Estimated: VOC's - > 100 lbs Actual Emissions: No speciated compound exceeded its reportable quantity. Iso butane (iC4) - 1 lb; Normal butane (nC4) - 2 lbs; Iso-pentane (iC5) - 36 lbs; Normal pentane (nC5) - 6 lbs; Hexane+(c6+) - 242 lbs; benzene - .15	HCN switched to another line, and LCN was increased. Splitter tower was opened to flare and pressure began coming down.	Investigating cause of flow decrease on 607 line. Corrective actions will be implemented.
OMCCW	11/9/2000	Gasoline	Gasoline observed on ground in SE corner of tank 27 firewall area.	Under ground leak	Gasoline - 5 gallons to ground	No obvious source of the gasoline could be found above ground or on underground drawings. Vacuum truck was called to site to begin clean up. Area will be monitored for further sign of leakage.	
OMCCW	11/14/2000	#6 oil	Leak in Line 614 inside firewall of Tank 503.	Line 614	#6 oil, greater than 5 Bbls.	Line taken out of service. Pumped plidco flange to mitigate seal leak.	
UU4	11/22/2000	Naphtha	Naphtha (IVN) leak underneath old insulation. (Possible break in weld)	STRIPPER TOWER	Naphtha (IVN) - 3 gallons	Shutdown unit to repair leak.	
OMCCW	12/2/2000	Oil	Pressure control valve for regular gasoline for employee's gas pumps leaking at packing.	Gas pumps leaking at packing	Gasoline - 10 gallons	Pump shut down and control valve blocked in (WO C-65354)	
SRU	12/17/2000	Oil	T-10 leaking small drip to concrete	T-10	Rich MEA - 20 gallons over 2 days	Safe seal installed on clamp.	
OMCCW	12/8/2000	Oil	Tk. 114 small pin hole leak in shell of tank about 20ft. high under steps. Noticed by discoloration on side of tank.	Tank 114	Crude Benzene - 3-5 gallons	Transferred the contents to Tank 115 to pull level in Tank 114 below leak. Maintenance will make repairs (patch) to leak as soon as possible.	

PS 3A	12/15/2000	Oil	Retraction: Initial Report: A leak developed on a fan cooler tube. Final Report: 119-C Fan Coolers developed a leak.	119-C Fan Cooler	Initial Report: Gas oil - > 5 bbls to concrete containment. Final Report: Gas oil -- 10 bbls to concrete containment.	The coolers were blocked in. Vacuum trucks recovered the gas oil spilled to concrete.	Repair tubes in 119-C fans.
ARU	12/16/2000	Oil	The lube oil fill line holed through at a pre-existing clamped piece and started leaking on the deck which fell to the pavement below.	Overhead cooling fan	Lub oil from overhead cooling fan - 20 gallons	The steps taken to secure the leak were to shut down the oil supply pump and block it in.	
OMCC-Marine	12/18/2000	Panasol	Dock 50 - Spill caused by a hose separation while attempting to flush the Plant A line into a Frac tank. Approximately 15 gallons of Panasol spilled on the roadway and 2 gallons spilled into the Galveston Bay water.	Hose	Panasol- 15 gallons to the roadway; 2 gallons to Galveston Bay water	Plant A immediately shut down the pump to stop the transfer.	
SRU	12/20/2000	Oil	Sweet water system was being shut down to make RV repairs. Sweet water makeup not closed fast enough causing Tank 101 to overflow to containment and into process sewer.	Tank 101	Oil- 10 bbls to containment		
OMCC-Marine	11112001	Galeota Mix Crude	Dock 40/41 - Spill caused by external corrosion in a transfer line where the line rests on a concrete support.	Transfer line	75 gallons- Galeota Mix Crude	The transfer line was taken out of service and repaired.	In addition to the maintenance work, an investigation was conducted January 24-25. Team members included personnel from the following work groups: maintenance, inspection, supervision, operations, pipeline, the union, as well as Lt. John Reinert of the USCG
UU 3	1113/2001	Heavy Intermediate virgin hydrotreated DDU naphtha	Flange leak resulted in small (6"-8") - -	Flange	Heavy intermediate virgin hydrotreated DDU naphtha (VOCs to atmosphere <100 lbs per day) no benzene present	Extinguished with steam lance. Installed steam lance to prevent relighting of material and reopening of flange leak.	
FGCU 1	1114/2001	Heavy cat naphtha	Leak developed under insulation on preheat exchanger E-3	Exchanger E-3	Heavy cat naphtha - 2 quarts	Removed OATS unit from service; purged with nitrogen	
OMCCW	111612001	MTBE	When starting up barge discharge of MTBE, dock hose started leaking	Dock 37 - Line 95	MTBE - 2 gallons to ground (no product to water)	Discharge was immediately shut down	Shut down cargo; replaced hose.

(continued)

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OMCC-Marine	1122/2001	Hydraulic Oil	Dock 38- Spill caused by a small leak in a 1" hydraulic hose. The hole had been worn from abrasion between the line and concrete on which the hose had been laying during operation.	Hydraulic hose	0.5 gallons - hydraulic oil	The hydraulic hose was replaced	After the incident, other hydraulic hoses were inspected to insure that they are not in a position to encourage accelerated wear. At the recommendation of the Coast Guard, the hydraulic fluid will be replaced with a more biodegradable fluid which supposedly does not produce a sheen.
OMCC-Marine	21212001	Gasoline	Dock 38 - Spill caused by a cargo loading hose rupture due to overpressure. The rupture occurred because the vessel had a valve pump was started.	Cargo loading hose	25 gallons - gasoline	Cargo pump was immediately shutdown. Garner Environmental responded for cleanup	A Process Hazard Analysis of loading/unloading operations and a formal investigation of the incident were conducted.
OMCC-Marine	311412001	Crude Oil	Valero Ship -The spill occurred when a ship transferring Crude Oil to the Valero refinery failed to secure its mooring lines to the dock. As a result, the loading arms broke, spilling crude oil on the water.	Loading arms	338 bbls - crude oil	Garner Environmental responded for cleanup.	A complete hazard review was conducted and action items implemented. All systems were tested for proper operation.
RHUIComplex	312212001	Diesel	While pressure testing the RHCat transfer loop, the operators found oil in the ground. A bleeder on the loop was left open.	Transfer loop bleeder	Diesel - 2 gallons		

# Oil Spill History

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UPS DATE	Location2000	INCIDENT #	UNIT	EXPLANATION	POUUTANTS	Investigation comotete?	SPIU
5/1/2001	Oil Movement/Utilities	2001-087	ENVFAC	Spill at reforming catalyst warehouse- A failure of the Roll Off Box Tarp hold down straps allowed rain water to collect on top of the roll off box. The weight of the rain water also pulled the tarp into the roll off box, partially exposing the contents. When the roll off box was being loaded onto the roll off truck, the tilting effect of this action caused the rain water to run downward off the tarp and into the roll off box. This caused the rain water to become mixed with some free oil that had accumulated in the roll off box, and then spill over the back end of the box.	Rain Water, Slop Oil from filter Cake -4 BBLS	NO	YES
5/2/2001	Resid/Sulfur Conversion	2001-085	SRU	The SRU C-sulfur train seal leg look box developed a hole in it which caused some sulfur to come out on top of the concrete sulfur pit. Amount is well over a quart.	Sulfur- 3 quarts.	NO	YES
5/8/2001	Resid/Sulfur Conversion	2001-094	COKERIRDU Complex	The cokers and sdu maintain a constantly circulating loop of sludge slurry with a total system back pressure controller P9036, which holds system pressure for sludge injection while still allowing return, unused slurry to flow back to the SDU. This CV sees substantial pressure drop which combined with tremendous erosion can "sand-bias" the majority of design controllers. The high erosivity of the sand/ dirt laden sludge. Slurry is what consumed this CV P-9036 isolated on the 3rd elevated deck acces of F-304 steam dr @ coker C.	Light coker gas oii/SDU filter cake - 1.5 bbls	NO	YES
5/9/2001	Naphtha Upgrade/Blending	2001-093	UU3	Initial Report: In the process of starting up the 318-J compressor, nitrogen pressured through the PCV-310 control valve. Contents of the line downstream of the PCV-310 was released through the 384 vent to the atmosphere. Final report: The MOV 384 atmospheric vent released approx. 1 gallon of reactor charge naphtha which was released as a liquid to a contained area. No reportable quantity was exceeded. Initial notification was made as required to GCHD and the TNRCC to ensure compliance with environmental regulations	Initial Report: Naphtha > 100lbs Final: (intermittently for 30 minutes)- 1 gallon of reactor charge naphtha (liquid)	NO	YES
5/12/2001	Resid/Sulfur Conversion	2001-096	COKERIRDU Complex	Relief valve on South Drum of Coker "A" released to atmosphere due to malfunction of water controls on drum.	Heavy gas oil approximately 15 seconds	NO	YES
5/11/2001	Cracking/Alkylaton	2001-101	FCCU2	Pipefitters were removing piping to lift the lid to the oil/water separator. When piping was removed the slop rundown meter shifted and the downstream flanged opened up releasing approximately 2 gallons of oil to the rock area next to the separator	Oil-2 gallons	NO	YES
5/17/2001	Oil Movement/Utilities	2001-100	OMCCW	Nipple failure on J-4 pump	Naphtha 5 BBL to Concrete	NO	YES

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UPS DATE	Location2000	INCIDENT#	UNIT	EXPLANATION	POUUTANTS	Inveatlgaon ?	SPILL
8/21/2001	Cracking/Alkylation	2001-175	FCCU2	FEED HEADER INLET TO CAT2 REACTOR PRESSURE INCREASED, BACKING OUT FEED AND UPSET CATALYST CIRCULATIONS AND VESSEL PRESSURE. AS THE PROCESS FLOWS BEGIN TO SWNG THE PRESSURE BALANCE BETWEEN THE REACTOR AND REGENERATOR ALSO BEGAN TO SWING. AS THIS SWING GOT GREATER THE PRESSURE IN THE REGENERATOR GOT LOW ENOUGH TO ALLOW LESS HEAD PRESSURE TO KEEP THE REGENERATOR CYCLONES WORKING A THEIR BEST. THIS ALLOWED CATALYST TO FLOW WITH LESS RESTRICTION THROUGH THE CYCLONES AND OVERLOADING THE ESP, RESULTING IN AN OPACITY EXCEEDENCE OF AN AVERAGE OF 31.6% FOR 6 MINUTES.	WET DISPERSION STEAM GOING TO THE REACTOR FEED NOZZLES, LETTING SMALL DROPLETS OF WATER GET TO THE HIGH TEMPERATURE OF THE CATALYST.	NO	YES
8/21/2001	Oil Movement/Utilities	2001-248	OMCCW	After transfer was complete from tk 1018 to tk 59 operator blocked in suction and discharge. T-1 pump started by itself and ran long enough to heat the product and over pressure pump case causing case seal to teak.	LSDCO 3 bbls. (to soil)	NO	YES
8/29/2001	Naphtha Upgrade/Blending	2001-164	ARU	An oil fill line to the 608-C1 broke off due to vibration stress causing the bulk oil tank pump to kick on. Resulted in spillage of gearbox oil from fan deck to the ground (soil/rocks). NO RQ SPILL > 5 BBLS	Gearbox oil - approx. 150 gallons to ground. (3.57 BBLS)	NO	YES
9/3/2001	Oil Movement/Utilities	2001-228	OMCCW	Operator went to get a blend sample at the analyzer building from the gasoline blend header and found two filters leaking onto the concrete area.	25 gallons of ultimate gasoline to concrete.	NO	YES
9/3/2001	Oil Movement/Utilities	2001-178	POWER2	The inboard seal on the J-504C sour water injection pump blew out resulting in sour water leaking to a concrete containment area.	Sour water (all contained) = 10 gallons H2S = 0.5lbs	NO	YES
9/8/2001	Oil Movement/Utilities	2001-179	OMCCW	F-232 Benzene pump leak resulted when a 1/2" swedge lock fitting came apart (vibration caused tubing crack).	< 1 gallon spilled to concrete and into drain.	NO	YES
9/10/2001	Resid/Sulfur Conversion	2001-169	PS3B	Flushing 451CB exchanger to blowdown. Oil started spraying between the 403L's (desalters). 451 CB and 403L's tie into common blowdown header.	Heavy Vacuum Gas Oil - 5 BBLS to containment	NO	YES
9/11/2001	Oil Movement/Utilities	2001-180	OMCCW	Light slop line 164 located south of the Ultracracker developed a small leak where the line sits on a concrete pad.	Approx. 10 gallons slop oil (to concrete)	NO	YES
9/12/2001	Naphtha Upgrade/Blending	2001-176	DDU 300	During a delivery of perchloroethylene (perc), the truck's pump developed a leak at the inlet coupling which resulted in a spill of approx. 1/2 pint to asphalt.	Perc 1/2 pint (RQ- 7.4 gals.) No reportable incident.	NO	YES
9/21/2001	Oil Movement/Utilities	2001-190	OMCCW	Underground line leak on line 617 at a road crossing at east 3rd and ave. G on an existing repair clamp. (Spill to ground)	2 gallons of light virgin naphtha	NO	YES
9/21/2001	Oil Movement/Utilities	2001-191	OMCCW	Small leak on the discharge of the sample piping at Tank 114. (spill to ground)	Crude Benzene - 1 quart	NO	YES



# Oil Spill History

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UPS DATE	Location2000	INCIOENT#	UNIT	EXPLANAnON	POLLUTANTS	Investigation ?	SPILL
9/21/2001	Oil Movement/Utilities	2001-183	OMCCW	Final report: Line 806 developed a leak to soil inside firewall of tank 1052. The leak appears to have developed from a crack in a weld where the footer is welded to the pipe line.  Initial report:LINE LEAK AT TANK 1052 WITHIN FIREWALL	Final: CRUDE OIL 20 bbls.	YES	YES
9/21/2001	Oil Movement/Utilities	2001-184	OMCCW	Final report: Benzene slop line #1266 developed a leak underground a a road crossing located at West 4th and Ave. G..	Crude Benzene spill = 5 gallons to soil. Air emissions estimated were: BENZENE 25 lb, TOLUENE 8 lb., HEPTANE 4 lb., MIXED XYLENES 1 lb	YES	YES
9/24/2001	Oil Movement/Utilities	2001-188	OMCCW	Underground line leak in firewall of tank 538 where line 96 and line 741 come together (raffinate line from ISOM).	2.8 BBLs raffinate (air emissions speciated -no RQs)	NO	YES
9/25/2001	Oil Movement/Utilities	2001-186	OMCCW	Final Report: The leaking underground line was determined to be line #1218. Leak was caused from high temperature thermal-stress exposure .  Initial Report: Underground line developed a leak (northwest of FCU 3). The leak continues until the actual line can be pin-pointed; it will then be isolated and blocked in.	Final and Initial: Approx. 25 BBLs of low sulfur gas oil to the ground. No reportable quantities were met for air emissions.	YES	YES
10/1/2001	Oil Movement/Utilities	2001-201	OMCCW	Overfilled tank 42 due to failure of the independent high level alarm and failure of gauging systems; small amount of black #6 oil spilled over side of tank onto ground.	5 gallons #6 Black oil Did not exceed RQ.	NO	YES
10/9/2001	Oil Movement/Utilities	2001-207	OMCCW	Leak from external corrosion on line 422 (north of Coker A).	Light coker naphtha - 30 gallons (to soil)	NO	YES
10/14/2001	Oil Movement/Utilities	2001-218	OSBL	Total of 3 different leaks on the same acid line throughout a 13 day period. Line SA-01 developed a leak beginning on Oct. 11th. It was blocked in on Oct. 11 and flushed with water on Oct. 12th. Another pinhole leak on the same line was found on Oct. 14th while the operator was looking over the acid line . While placing the acid line back in service on Oct. 23rd, a valve packing started leaking. Remaining water and acid in line continued to drip until line was completely drained on Oct. 24th.	Approx . 25 gallons of sulfuric acid from beginning of Incident to the end.	YES	YES
10/15/2001	Oil Movement/Utilities	2001-216	ENVFAC	Final and Initial: A 1/2 inch drain valve broke off the J-606A filter press feed pump causing oil and sludge to spray out.	Final: 3 lbs. filter cake sludge to gravel and soil area (RQ = 1 lb.); 1 BBL oil to gravel and soil; 2 BBIs oil to concrete containment.	YES	YES
10/19/2001	Oil Movement/Utilities	2001-220	OMCCW	Line 801 developed a hole in a leg that runs in the SE corner of tank 1023 firewall.	4 BBIs - crude oil	NO	YES

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UPS DATE	Loc:atton2000	INCIDENT f.	UNIT	EXPLANATION	POUUTANTS	Investigation ?	SPIU
10/20/2001	OilMovemenUUtilities	2001-219	OMCCW	Line 614 developed a leak in a leg that runs in the NE corner of tank 14 firewall area.	20 BBLs - Light cat cycle oil	YES	YES
10/27/2001	OilMovemenUUtilities	2001-226	OMCCW	Initial Report: Acid Leak line south of FCCU3 at the OSBL pipe rack area, flange leak on 1.5" bleeder line in pipe rack dripping to grade.	Sulfuric Acid 2 to 3 gallons	NO	YES
10/30/2001	Oil MovemenUUtilities	2001-229	OMCCW	Oil leaked out from the bleed valve on the discharge line of pump F-133 when pump F-134 was started up.	Gas oil - 40 gallons to soil	NO	YES
11/1/2001	OilMovemenUUtilities	2001-227	OSBL	11/1/01 Final Retraction Initial Report: The acid leak and spill did not meet the reportable quantity limit of 1,000 lbs (65 gallons). This is not an environmental exceedence. Initial notification was made to GCHD and TNRCC to ensure compliance with environmental regulations.  11/1/01 Initial Call In Report: Sulfuric Acid leak of 25 to 30 gallons hit soil near the area northwest of Pipestill cooling tower.	Sulfuric Acid 25-30 gallons to soil. (Reportable quantity = 65 gallons)	NO	YES
11/6/2001	Resid/Sulfur Conversion	2001-231	COKERIRDU Complex	FINAL REPORT: Feed asphaltene quality change caused Coker C's three F-301B atmospheric relief valves to release coke-laden vapors followed by steam for 4.5 hours on November 6 to depressure the drum. Several hours later Coker A's three F-101B atmospheric relief valves also lifted due to the same feed quality change.  UPDATE REPORT: In addition, the feed change also affected Coker A resulting in a relief valve release from the Coker A south drum.  INITIAL REPORT: Due to feed change, pressure increased in the Coker C south drum resulting in a relief valve release to atmosphere.	UPDATE AND FINAL REPORT: 11/6/01 Relief valve release on F-301B Coker C 12:55-14:00: Heavy Oil- 56 Barrels(sooUoil; Coker Drum relief valves (to atmosphere) 12:55-13:30: Sulfur Components 131bs., nC10+ n-Decane (plus) 615 lbs.; Relief valve release on F-101B Coker A 17:06-17:30: Heavy Oil- 6.41 Barrels (sooUoil) and smoke. INITIAL REPORT: Coke soot, VOC's- 100 lbs, Light Gas Oil -5 BBLS	YES	YES
11/7/2001	OilMovemenUUtilities	2001-235	OMCCW	Scaffold builders working around pump PL-15D knocked a sample pipe off of the discharge piping of the pump resulting in a small amount of oil to the ground.	JP-8 (jet fuel with additive)- 5 gals. to soil.	NO	YES
11/14/2001	Naphtha Upgrade/Blending	2001-242	ULC	The inlet line to the 143-F flare knockout drum developed a leak at a flange about 20 ft. south of the drum. The flange leaks only when either UU3 or UU4 releases gas, which has entrained liquids, to the flare.	Approx. 1 gal. of HUC/LUC	NO	YES
11/19/2001	Oil MovemenUUtilities	2001-247	OSBL	While sandblasting SA-01 acid line, a pin hole leak developed which resulted in an acid leak that dripped into the Alky 2 cooling tower.	sulfuric acid - approx. 5 gals.	NO	YES

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UPS DATE	Location	INCIDENT /	UNIT	EXPLANATION	POLLUTANTS	Investigation completed?	SPILL
11/21/2001	Oil Movement/Utilities	2001-246	OMCCW	OMCC Operator received a call from Steve Wilson (Pipestills) about a pipe leak spraying a small amount of product on the road at Ave. G and East 3rd. The line was leaking at the interface with the ground just before crossing the road. Operators from the OMCC, Pipestills and DDU worked together to block in the leak. Line 626 will be out of service for two weeks to replace the underground line with a overhead section of line.	Diesel 3 bbls. (to road pavement)	NO	YES
11/28/2001	Oil Movement/Utilities	2001-253	OMCCW	An existing clamp on a set of flanges on Line 8 developed a leak. (located on the dock line right-a-way just north of the Valero refinery).	20 gallons LCCO (light cat cycle oil) to soil	NO	YES
12/14/2001	Oil Movement/Utilities	2001-262	OMCCW	An abandoned 42" underground suction/discharge water line was being demolished as part of the preparation for J426 compressor. Oil and water that had collected in the open-ended line over the past several years spilled out of the pipe into the surrounding hole.	25 gals gas oil and water mixture	NO	YES
12/18/2001	Oil Movement/Utilities	2001-266	OMCCW	Heavy slop line (300) inside tank 24 developed a leak.	2.5 bbls of heavy slop to soil (90% was water, 10 % oil)	NO	YES
12/19/2001	Cracking/Alkylation	2001-267	FCCU3	428C2A channel head started leaking, not a safety issue but overtime accumulated approximately 5 gallons of slurry on concrete pad Under exchanger.	Circulating Slurry- .12 BBLs	NO	YES
12/23/2001	Oil Movement/Utilities	2001-271	OMCCW	Crude oil discovered in area around 805 and 806 lines at Dock 40/41. Both lines were pressure tested which confirmed that neither of these lines were leaking. Source may possibly be from an underground abandoned line, but does not appear to be leaking any longer.	Crude Oil 2 bbls	NO	YES
1/6/2002	Resid/Sulfur Conversion	2002-018	COKERC	P-9036 sludge controller bypass valve developed a hole in body- 3/16-1/4" diameter due to aprariveness of sludge. Valve located on Coker C near F-304 steam drum.	Sludge .5 BBL	NO	YES
1/9/2002	Oil Movement/Utilities	2002-017	OMCCW	Small amount of oil to concrete area due to the malfunction of independent high level alarm on Tank 4003 while transfer of product into the tank was being made. The tank gauge and the gauge in OMCC were also reading incorrectly. The tank begin overfilling, but was promptly discovered before much product had spilled over. Due to the potential serverity of this incident, a level 2 investigation team was formed.	24 gallons gas oil (mostly to concrete) .	NO	YES
1/15/2002	Oil Movement/Utilities	2002-026	POWER2	Vacuum truck operator opened hose releasing MDEA to the road area.	MDEA - approx. 5 gals of 20% MEA to road.	NO	YES
1/16/2002	Oil Movement/Utilities	2002-027	POWER2	A flange leak on acid line SA-01 developed off E. 2nd in the pipe rack southeast of FCCU 1 cooling tower. The leak was from the flange off the block vlv to the 1" line that feeds the FCU 1 cooling tower.	sulfuric acid - approx. 30 gallons to soil	NO	YES

## Oil Spill History

(continued)

UPS DATE	Location2000	INCIDENTt	UNIT	EXPLANATION	POLLUTANT
1/17/2002	Oil MovemenUUtilities	2002-034	OMCC Marine	While lifting a drum of #46 Chevron clarity lube oil with a crane, the crane tipped the drum into an anchor bolt creating a hole which allowed oil to leak into the water. The oil is a bio-degradable product which quickly dissolved and dissipated. Because of the bio-degradable characteristics of this material, no oil sheen developed. The Coast Guard responded and agreed that there was no necessary clean-up to the water.	2 quarts bio-degrad
1/23/2002	Oil MovemenUUtilities	2002-037	OSBL	Sheen observed between Dock 38 and barge. The source of the sheen was undetermined by BP and Coast Guard.	
2/2/2002	Oil MovemenUUtilities	2002-043	OMCCW	Retraction and Final: During the start-up of Ultraformer 4 (which had been down for a scheduled TAR) the unit began sending rundown material containing intermediate virgin naphtha and light ultracrackate from the debutanizer tower to Tank 110. Light ends entrained in the rundown liquids to the tank resulted in liquids getting past the tank seals and flowing out of the pop-up vent and roof drain into the firewall area below. No reportable quantities were exceeded. Initial notification was made as required to GCHD, TNRCC, and the NRC to ensure compliance with environmental regulations.  Initial Event Description: UU4 coming up and was sending light ends into tower with intermediate virgin naphtha (IVN) and light ultracrackate. IVN/LVN with light ends was sent to tank 110 and sprayed out of pop-up vent on roof and drained from roof drain into firewall. IVN / LUC content 1 to 2% benzene. 2 bbl in firewall.	Final: IVN/LUC 2 b soil. Benzene cont 9.71bs. Initial: Ben content 6.7 lbs.
2/2/2002	Oil MovemenUUtilities	2002-054	OMCC Marine	Approx 1/2 gallon of chevron clarity oil spilled from an RV on a hose winch while hooking up to load a barge at Dock 38. This type of oil is piodegradable and has been approved by the Coast guard. Since the spill was < 1 gallon, the GLO will assess an administrative ticket but will not be counted as an internal spill for BP reporting purposes.	Biodegradable hydr fluid .5 gallon = 2
217/2002	Naphtha Upgrade/Blending	2002-047	DDU	A 2nd stage suction valve became stuck (closed) on the DDU 310A compressor resulting in an RV release to the flare.	stream consisted of hydrogen NOx .16 lbs; C4 . CO 1.12
2/9/2002	Oil MovemenUUtilities	2002-049	OMCCW	Final and Initial Report: Sighted unknown oil sheen on water at Dock 37 and Dock 38. Coast guard identified incident as a "SIGHTING". This is NOT REPORTABLE.	oil sheen source un
2/26/2002	Resid/Sulfur Conversion	2002-077	Coker/RDU Complex	Level indicator taps plugged; the level controller opened and oil spilled from the tank vent to containment.	Seal Oil 2 BBLS
2/26/2002	Resid/Sulfur Conversion	2002-077	Coker!RDU Complex	Level indicator taps plugged; the level controller opened and oil spilled from the tank vent to containment.	Seal Oil 2 BBLS

## Oil Spill History

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UPS DATE	Location2000	INCIDENT #	UNIT	EXPLANATION	POLLUTANTS	?	SPill
3/1/2002	Oil MovemenVUtilities	2002-084	ENVFAC	Update and final (spill report submitted 4/11/02): The sheen discovered in the description below was in fact determined to be comin 1 from the stormwater line between the environmental facility and the land treatment facility.  A light oil sheen was discovered on the water inside the ditch located outside our facility in the 2100 block of 519. Souce could not be identified as having come from our facility. Initial notification was made as required to GCHD, TNRCC, and the NRC to ensure compliance with environmental regulations in the event it had been BP's responsibility. No citations. were issued.	light oil sheen Update from 4/11/02 spill letter: Sampling of the soil and groundwater were conducted. All volatiles, semi-volatiles were below detection limit. Soil sample results for benzene were 0.167 ppm and TPH was < 50 ppm.	NO	YES
3/2/2002	Cracking/Alkylation	2002-081	FCCU3	While preparing to dump Catalyst, operator discovered pin hole leak in Catalyst dump line. Reported leak to Supervisor and leak was repaired the next day. Silica Alumina Catalyst Fines - 4 lbs to containment.	Silica Alumina Catalyst Fines- 4 lbs. To containment	NO	YES
3/21/2002	Other	2002-093	POWER4	INITIAL REPORT: MAINTENANCE NOTIFICATION - BP will shut down the G-420 gas turbine steam injection system at Power 4 for several hours on March 21, 2002. This is being done to determine the effect of the steam system outage. During the steam outage, NOx emissions may exceed G-420 permit allowable by 1.000 lbs during the testing period.	No excess emissions above permit limit will result from this activity	NO	YES
3/27/2002	Naphtha Upgrade/Blending	2002-102	DDU 300	A clamp on the bypass line around LC 9503 low temp. separator was found leaking. Sour water sprayed out from an approx. 6" clamp.	Approx. 20 gallons sour water to concrete.	NO	YES
4/3/2002	Oil Movement/Utilities	2002-103	OMCC Marine	SPILL TO WATER/Reportable/Final Report-Letter to agencies: A cracked hydraulic fitting was found on a crane boom. When it was lowered to repair the leaking hydraulic hose, approximately 4 ounces were spilled, with about 2 teaspoons making it to the water.	Hydraulic oil (Chevron Clarity) 0.03 gallons	NO	YES
4/4/2002	Oil Movement/Utilities	2002-139	OSBL	Not reportable: Flare #3 knock out drum F803 suction line to pump developed a leak. Steam from the steam-tracing tubing was the cause for the leak. Leak consisted of condensate and sour water which was a total of about 40 gallons combined (approx.20 gallons of sour water). A sample was taken to determine the amount of emissions; no RQ exceedance.	Total volume was approx. 40 gals. (approx. 20 gals. Was sour water). Benzene was < 1 gal. (38 ppm)	NO	YES
4/11/2002	Oil Movement/Utilities	2002-109	OMCC Marine	FINAL REPORT: A check valve for a slop oil sump failed, with caused material from the slop tank to backflow into the sump. Consequently, the sump overfilled and spilled approximately 1 gallon into the water.  INITIAL REPORT:SPILL TO WATER: Reportable: The J22 sump line check valve failed to check backflow from Valero's slop tank which caused the slop sump to overfill and spill into the water at Dock 41. The spill was contained with boom material which had been previously deployed.	Hydrocarbon crude oil 1 gallon	YES	YES

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UPS DATE	Location	INCIDENT /	UNIT	EXPLANATION	POLLUTANTS	Investigation 7	SPILL
4/11/2002	Oil Movement/Utilities	2002-108	OMCCW	Final (air report): SPILL TO LAND: Approximately 10 bbls of heavy ultraformate (HUF) was discovered leaking to the ground from line 387 inside the firewall of tank 17. When initial phone calls were made regarding this incident, air emissions from this spill were estimated to be approximately 25 lbs of benzene and 200 lbs VOCs. Calculations determined that air emissions were well below the reportable quantities. Initial notification was made to the TNRCC upset division to ensure compliance with environmental regulations.	Heavy ultraformate to ground - 10 bbls Air emissions (all below reportable quantity): Benzene 0.36 lbs; other VOCs 71bs	NO	YES
4/19/2002	Cracking/Alkylation	2002-120	FCCU3	NOT REPORTABLE to agency >1 BBL Reportable To London: A leak developed in an underground line W side of FCCU3 by the 452 C-Fan.	Oil 70 gallons	NO	YES
4/27/2002	Oil Movement/Utilities	2002-127	OMCCW	Non-reportable: A leak developed on light slop line #420 (south of Tank 601) while light slop was being pumped to P.Still 3A. Spill was less than reportable quantity.	10 gallons light slop oil	NO	YES
5/17/2002	Oil Movement/Utilities	2002-142	OMCC Marine	NOT REPORTABLE (Storm Water) : DOCK 54 area. Two drain collection sumps overflowed into firewall located between sumps during very heavy rainstorm. Volume was estimated to be approximately 400 gallons of storm water with < 1% of that amount being hydrocarbons (no benzene)	99 % Stormwater, 1% hydrocarbons (no benzene) (trace amounts of toluene and heavy aromatics)	NO	YES
5/17/2002	Resid/Sulfur Conversion	2002-141A	Coker/RDU Complex	FOLLOW UP 6/20/02: Oil was contained inside the tank firewall and drained to the sewer as soon as electricity could be restored. Free product was recovered by vacuum truck. Contaminated soil is being removed to the BP land treatment facility. Follow up sampling results and a sketch of the spill area will be forwarded when clean up is completed.  INITIAL REPORT: During a heavy rain and electrical storm, lightning caused loss of a pole line resulting in a lift station outage. This resulted in a process sewer back up and a spill of hydrocarbons into tank 1010 firewall through a drain valve that failed in the open position.	Crude oil 5 BBLs	YES	YES
5/27/2002	Naphtha Upgrade/Blending	2002-154	ULC	Non-reportable: Gasket failure on seal flush pressure controller for 105-J/JA resulted in a spill of approx. 3 BBLs of diesel to a concrete area.	Diesel to concrete - 3 BBLs	NO	YES
5/31/2002	Resid/Sulfur Conversion	2002-156	Coker/RDU Complex	SPILL TO LAND: NOT REPORTABLE/Blew seal from resid pump of 1/2 bbl or 1/4 gallons to ground.	Resid 1/2 bbl	NO	YES
6/17/2002	Refinery	2002-159	Refinery	Approximately 1 gallon of residual oil (gas oil) was discovered to have been spilled on the roadway on the east side of the refinery lab.	Residual oil (gas oil) 1 gallon	NO	YES



## Oil Spill History

(continued)

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UPS DATE	Location2000	INCIDENTt	UNIT	EXPLANATION	POLLUTANTS	?	SPR.L
6/15/2002	Oil MovemenUUtilities	2002-177	OMCCW	SPILL TO LAND: NR / London Reportable - Light Gas Oil of 1 bbl to the ground. Leak found on line 610 in pipe alley across the road and south of PS3A.  •• London Reportable Only > 1 bbl of light gas oil spilled to the ground***aas	Light gas oil 1 bbls	NO	YES
6/26/2002	Resid/Sulfur Conversion	2002-171	COKERC	NOT REPORTABLE: During March-2002 TAR@ Coker C, all RV's were pulled to shopper PSG#S RV's and PCMS.Rv310-L was replaced with a new rv but, it has started to leak-by thru it's relief destination to the sewer and OWS system.	CG13 Heavy Gas Oil - Paraffin 1.79 bbls	YES	YES
6/29/2002	Other	2002-172	POWER3	NOT REPORTABLE: Sulfuric Acid leak developed south of Power 3 cooling tower. Acid leak is from a block valve on acid line to acid tank. This spill is considered to be in Cinergy's area of responsibility.	sulfuric acid - 50 gallons to soil	NO	YES
7/13/2002	Oil MovemenUUtilities	2002-173	OMCCW	SPILL TO LAND / LONDON REPORTABLE: Contractor was using a backhoe to locate potential areas to build foundations when he hit a bull plug in Line 629, which resulted in heavy cat gasoline leaking into excavation hole area. Leak was contained primarily within the hole utilizing a vacuum truck to continually empty the contents of the excavation hole throughout the incident. (Total volume of spill was estimated to be approx. 390 BBLs, most of which was recovered by vac. truck and sent to slop.)  NOTE.: FINAL SPILL TO LAND REPORT DUE BY AUGUST 14TH.	Heavy Cat Gasoline 390 BBLs (Per OE calculations, there were no vapor emissions)	NO	YES
7/20/2002	Oil MovemenUUtilities	2002-182	OMCCW	London Reportable: The OMCC distillate operator surveying his area of responsibility became aware of a leak at tank 18. The leak appeared to be coming from the tank bottom (at water draw box). The amount that was leaked to ground was 4.5 barrels. Vacuum trucks have cleaned up the small affected area.	4.5 BBLs Kero to soil	NO	YES
8/14/2002	Naphtha Upgrade/Blending	2002-194	ULC	Non-reportable: Discovered very small stream of hydrocarbon liquid coming from 3/4" nipple & bleeder valve area off Ultraformer flare line traveling in piperack (30-40 foot up) just north of Ultracracker EIP Salt dryers. UU#3 was in process of depressuring to flare at the time - liquid did not spray very long and was spraying to concrete area (est. 1/2 gallon naphtha to concrete) 8/21/02 update: Leak continues. Nipple on both sides are cracked.	Naphtha - 0.5 gallons to concrete Revision: quantity was approx. 10 gallons.	NO	YES

# Oil Spill History

(continued)

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UPS DATE	Location2000	INCIDENT /	UNIT	EXPLANAnON	POLLUTANTS	IIWesllgation /	SPILL
8/15/2002	Oil MovemenVUtilities	2002-200	ENVFAC	Reportable: During Thursday's heavy rainfall, after the refinery had received 9.6 inches of rainfall and all of the storm water tanks and storm water basins were full, the Env. Facility beagan to overflow the A-003 outfall with untreated storm/waste water. The discharge began around 4:40pm on 8/15/02 and stopped around 6:00pm on 8/16/02. The permi limit on Oil and Grease was exceeded both days.  Note Spill report due in 30 business days (9/26/02)	O&G permit exceeded both days	NO	YES
9/29/2002	Oil MovemenVUtilities	2002-325228	DOCK 32	Benzene line 11 ruptured at the start of a cargo loading at Dock 32	1 bbl - benzene released to Water	YES	YES
No oil spills to water 9/30/2002 to 12/5/2006							

IA Report Number	Gm11111D	PCftt.nam	Regulatory R. "i(WmmQsT	Cttaoon	Froquency	Sl"" O.to	St11rt Tme	Rof  C -cm Dac;	EM llaiD	End n11.	Number OF OiWlatmns	ceuae o1 lti*CW1	ImmediOI At. on Tlluo<>
2041-IR-720668		He>vy				14201113	2265	TGR				ROIt>H "-BLEPSI;oon1111tdock-<atotielloraln*""OJJ01onkild<IQ c:au!loQ sump to overflow and spill into water (This is a reportable envt *nc1dM1I' and a london reportable spill.)...INITIAL REPORT TO TCEO- SPILL COORDINATOR * Cer1itied 17003 1010 0003 8839 3879. See attached file for IIM'tougallon S<.mmol)'.	40111 C4l oothl ocUva'od
2(11)5-IR-1234.199	M:1Tme	I>RI			Nono	0207/rtS	1 O	fCC'liotncaI*	71122005	1000	I	REPORTABE: During the Sunday Fire&. Safety Check running of the 1+f w:0P1 pUmDS. a failure or the Jransler case occurred causing extensive damage to tM P-2181'. Pump, Motor, and associated equipment inside the pump house pump was secured and isolated. Initially an appeared to be secured and oonl&in'Jrd. Upon closer inspection on Monday morning, it appeared that there may be a leak in the containment area or the pump house, allowing a few drOpI Of oil to drip into the canal resulting in a slight sheen. As a pr111:4Ufon a spill notification was made and Garner EnvironmentalJ was called to clean-up the area*.2114/2005 CERTIFIED NO17003 10100003 81139 nm.TCEO	Garnet Environmental was caJied laboom "c area. and clean up the area
2005-IR-1559701	Mirne	SkiP0'1			Nono	09"17105	1100	ICI'folimfy	2701200li	1200	I	Roln in>m HUtflalnet R<tacausw 11/d ---> *nd ltlotutitOolljiP11-J :11:9 f.7L O (rtfinety docks) to over11ow to the ground spilling approx. 20 gallons of slop oil. Most of the oil remained on top of the standing water and has been removed bJ MIUUm	Garno.r *toned cleanuo "T--> 1 1200
20QS.in. tWYt-		HyanoulicOI (H)dlotreated -OI- a.mW> 0111			Nono	101711111	15.32	TC Chemicals	:mo S		I	F-01119 .....tooruro to alalt lng hyc1r*1" hOY IOQI 1M nou tnot cauRd this incident) the Dock 52 Loading Crane, was unlocked as per the IOTO procedure, and the crane hyd'ajlic pump motor was started loCI "Q tN Operators inspection or the crane and the 'M>rk thal had been done. fofta'lling the startup of the hydraulic pump motor,the aperalm notJCilld a small stream of hydrauKc oil shooting out form the crane pedestal WS of the crane The OperaiOf Immedialely shutdoM1 the hydraulic pump -stimated that less ltlan a ganon of hydra ic oil was released c:1U1"G tmmftctately following the startup olthe hydraulic pump motor,the operator noticed a small stream ol hydraulic oil shooting oulorm the crane pedestal O1'U of the crane. The Operator immediately shutdown the hydraulic pump motor is estimated that less than a gallon of hydraulic oil was rtlea&ed during thA mcdent. Th* operator. as soon as the crane was secured, began checking the f1,lrFOUndllQ area of Dock 52. The operator noticed an oil sheen on the canal W Aitr Souttt and West of Dock 52. The operator call on the unit radio. to have lthe Unit Supervisor to start the 011 Spill Notification procedure	T'M Unit Supervisor made the tofk>oMng cabs and contacts:  Garner Environmental caned for clean-up BPSileSOG USCG MSU Gal; ton OocIt:~AU!tl_n_ 8PS.1*HSSE &to 51111'1 DIRECTOR
	Mal1M	-Data				10!1	800	TC !IO11WY	11062006	724	I	01""popel*n.....bnoalilny *"-on<*Oosetca*go""""ondwas<PIDY..S wim a un1dl1110U1'U o1 d1i'ht	1*1"" t'hang.ddothft. We,_,..... iOIlandJSOSHdthe ..... *ctid'hoonN""h-andealtedtono W44um truck to remove the product from nta<k:ro--
11'1-1897303	tManne	X - lial.nd			Nono	0706100	1430	TCC'lw""emo	6012006	10110	I	.....lnQWB.,'....." : : :oh>oc t n:;O.;:tc d : "Spil !Sbmllitld o1OCll<.O !IJJoM.	

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## Oil Spill History

(Continued)

Date	Material / Qty	Location	Cause	Action
2/18/2010	Toluene/less than 1 gal	Waste Water Treatment Facility Outfall	Hydrocarbon being carried out of facility thru water stream	Aerated Water to lower ppm quantity
12/20/2010	Gas Oil/150 bbls	Texas City RR - Right of Way	Broken Pipe	Cleaned up oil and returned ROW to service
1/9/2013	Diesel / ½ gal	Gate 42	4328141 Half gallon spill of Off road Diesel	'Absorb all' was used for the diesel
1/13/2013	Gasoline	OMCC	4330105 F 47 drain pipe broke spilling gasoline to pad	Shut down pump F47, blocked in suction and discharge ,and had Blender to red tag pump
1/13/2013	LUF	OMCC	Shell leak @ Tk-19	Immediately opened 760 line to Tk-8 so we could drop the level in Tk-19 below 25 ft to ensure that no more LUF will leak out of the hole
2/6/2013	Oily Water / 20 gallons	Environmental Facility	30049 Spill of 20 gallons oily water to the ground from Tank 1056.	The spill was contained and the leak was stopped. Operations and SOC were notified. Clean up has been started.
2/7/2013	Waste Oil/ less than 1 gal	Waste Water Treatment Facility Outfall	Hydrocarbon coated bioremediation material being carried out of facility	Set up Vac Trucks and additional oil absorbing materials in treatment
3/26/2013	Oily Water	Environmental Facility	30378 Pump F214 fell over and spilled oily water sludge on the ground.	Pump turned off employees taken to medical and returned to work. Garner cleaning up material from ground.
4/23/2013	Diesel / 1 cup	SRU-D	30580 Discovered diesel fuel spill (about 1 cup that got on concrete)	Operation quickly washed down area with soap,Notified garage about fuel driver over-filling fuel cell today.
6/4/2013	Oily Water / 10-15 gallon	RHU	30861 10-15 gallon oily water spill from vacuum truck.	The spill was immediately cleaned up utilizing dry sweep and then drummed.
9/10/2013	Diesel	OMCC	31469 Diesel fuel spill out of a generator at Tank 56.	Called vac truck to clean up spill.
10/8/2013	Kerosene / 2 gal	UU4/DDU	31683 Returning L-102A feed filter to service, ~ 2 gal of Kerosene spilled, H2S monitor alarmed	Area was soaped and cleaned.
10/28/2013	HSVGO / 2-3 bbls	OMCC	31814 Approximately 2-3 bbls HSVGO spilled from side draw of Tk-4002 to diked area	Started clean up efforts and soil remediation
10/26/2013	Gasoline / ½ cup	Site Wide	31866 1/2 cup of gas spilled from gas container.	spill had evaporated with no further issues
1/28/2014	Oil / <2 gal	RHU	32537 Observed little oil spill on the ground (less than 2 gal) created slipping hazard	soap or absorbent to clean the oil spill up
6/11/2014	Qily Water	Environmental Facility	134420 Threaded nipple came loose on discharge side of pump, Tank F-215, liquids spilled	cleaned up and reported.
7/20/2014	Qily Water	Environmental Facility	135242 Pressure gauge came un screwed from coupling causing some water and sludge to spill	cleaned up and reported.
8/1/2014	LCCO	OMCC	135565 While placing pump in service, vent / primer valve was left open causing LCCO to spill	Vac truck dispatched to get liquid material up
8/6/2014	Oil	ULC	135668 While disconnecting flex hose from a temporary pump some oil came out of hose and spilled	Tightened flange back up and then closed valve. Cleaned the area
9/13/2014	Crude	DOCKS	136546 DK40/41 noticed Inspectorate spill crude from sample onto parking lot	Inspectorate inspector cleaned up
9/24/2014	Kerosene / 20 to 30 gallons	Pipestills	136893 Pressure gauge blew off 406-J kerosene pump spilling 20 to 30 gallons of kerosene to pad	Operator shut down pump and blocked in gate valve to gauge. Area cleaned up.
11/13/2014	LCCO / 2 gallons	OMCC	138567 Spilled approximately 2 gallons of light cat cycle oil to the ground from Tank Roof Drain	Cleaned up oily area and notified SOC, Environmental, Safety and Operations
1/23/2015	Lube Oil / 1 quart	Docks	140068 received NOV from USCG for 9/29/2014 < 1 quart lube oil spill at Dock 32/33/34	Add PM to replace Flat Plat assemblies on all Docks Firewater Pumps every 10 years
2/12/2015	Oil	SHGP	140513 Oil from the 805 cooling tower #2 circulating water pump motor had spilled	Put diapers on oil, cleaning spill
2/23/2015	Gasoline	Site Wide	140786 Contractor spilled gasoline while filling his patrol vehicle	Absorbent was placed on spill
3/17/2015	ULSD / 2 gallons	ULC	141239 Packing on bypass valve of PCV 2605 failed, allowing 2 gallons ULSD to spill	Swapped hot oil pumps to internal seal flush and shutdown the seal flush skid. Notified environmental. Area cleaned up.

## APPENDIX D

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### TRAINING AND DRILLS

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## TRAINING AND DRILLS

### D.1 RESPONSE TEAM TRAINING

The Company provides training related to discharge prevention, testing and response. The training methods address oil discharges from several perspectives: human health and safety, material hazards, rupture control and repair operations, pollution control, and overall crisis management of the emergency.

#### ***Facility Response Plan Review***

Qualified Individual personnel are provided general information regarding the background and requirements of OPA 90 and the contents/purpose of the Facility's Response Plan. The review covers how the Plan is organized, what information it contains, and how it should be used. QI/AQI responsibilities emphasize notification and reporting procedures. The review is one time upon assignment to the position with annual refresher during Tabletop Exercise.

All response team members (QI, AQI and response team) should review the appropriate parts of the Facility Response Plan whenever their job position or responsibilities change under the Plan. A copy of this Plan will be available at all times to team members.

#### ***HAZWOPER (29 CFR 1910.120)***

OSHA HAZWOPER training requirements are shown in the table below.

OSHA HAZWOPER TRAINING REQUIREMENTS		
Responder Classification	Required Training Hours	Refresher
<b>29CFR 1910.120(q) Emergency Response</b>		
First Responder – Employee Awareness Level	2-4 hrs demonstration of competency	Same
First Responder - Operations Level	8 hrs	8 hrs
Incident Commander	24 hrs plus competency	8 hrs

All personnel responding to an incident must satisfy the applicable HAZWOPER training requirements of 29 CFR 1910.120. Personnel are trained to the level of HAZWOPER necessary to perform their emergency response duties. Team members are required under State and Federal regulations to have appropriate up-to-date HAZWOPER training necessary to function in their assigned positions. Refresher training or a demonstration of competency is required annually to maintain HAZWOPER qualifications.

**First Responder/Employee Awareness:** Unit operators are instructed to assess spill from a safe distance. Training covers basic hazard and risk assessment techniques and HazMat terminology, how to select and use personal protective equipment, how to perform control, containment, and confinement operations, and how to implement basic decontamination measures. Therefore, they are not required by OSHA to receive HAZWOPER training for responding to spills in their areas or units.



## D.1 RESPONSE TEAM TRAINING (Cont'd)

### *HAZWOPER (29 CFR 1910.120) (Cont'd)*

**First Responder/Operations:** Personnel involved in the day to day operations within a specific unit receive continual instruction and experience in the proper handling and potential hazards associated with the materials that could be spilled in their area. Personnel who are involved in protection and containment operations that do not involve contact with the spill (i.e., booming operations prior to arrival of the oil) must have at least 8 hours of HAZWOPER training or sufficient experience to demonstrate competency in their spill response duties.

**Incident Commander (Qualified Individual):** The IC is trained to assume control of an incident. Training includes the Company's incident command system, how to implement the Facility's Response Plan, the associated risks of employees working in chemical protective clothing, decontamination procedures, how to implement the local emergency response plan, and knowledge of the State emergency response plan and of the Federal Regional Response Team.

### *Other Response Support*

Personnel from other aspects of the Response Team (e.g., Hazmat, fire brigade, medical, etc.) can be made available depending on the spill event.

Other personnel whose skills are needed temporarily to perform immediate emergency support work (such as dump truck drivers and crane operators) are not required to meet the training requirements discussed above. However, these personnel must be briefed on the potential hazards and the duties to be performed at the site before participating in response operations. They must also receive instruction in the use of any safety and personal protective equipment needed and on all other appropriate safety and health precautions.

### *Company and Other Specialist Support*

Experts would provide technical advice or guidance during response to a spill incident. Examples of such specialists might include chemists, biologists, industrial hygienists, physicians, or others with skills useful during a spill response operation. Such persons must receive appropriate training or demonstrate competency in their specialty. There are no specific requirements on training content or hours of training for these persons. However, the training must be sufficient for the individuals to maintain competency in their specific area of expertise. Training and demonstration of competency for skilled support personnel and specialists should be documented.

### *Incident Command System*

Assigned IC team members will receive ICS training and may also receive supplemental training in other related general topics.

## D.1 RESPONSE TEAM TRAINING (Cont'd)

### ***Additional Training***

The QI/AQI and Response Team members may receive additional training. Other courses pertinent to furthering the practical understanding of the OPA 90 Plan include SPCC and RCRA training. Additional training may be accomplished by attending seminars, training classes, cooperative training classes, outside classes, and various response schools. Timing of this additional training will vary based on availability of classes. Additional training is not required for team members to perform their spill team job functions.

### ***Contractor Training***

The Company also recognizes that contract personnel must also have sufficient training in responding to emergency situations in accordance with HAZWOPER training requirements. The Company communicates this training need to its key contractors during contract negotiations and often specifically spells out this requirement in its contracts. The Company also tends to use well-known spill response contractors whose reputation and experience levels help ensure personnel who respond will be trained to appropriate levels. If contractors sub-contract to labor pools, documentation as to the training of casual laborers will be required.

### ***Training Qualifications***

As no formalized method of certifying training instructors has been provided by OSHA, the Company ensures the competency of its instructors and training organizations by selecting trainers and/or organizations with professional reputations and extensive hands-on and classroom experience in their subject matter. The Company personnel with responsibility to coordinate the training program also conduct periodic informal audits of training courses selected for the Company training program to ensure their suitability for the program.

### ***Training Records and Maintenance***

Training records for team members will be maintained at the Facility according to Federal, State, and Local government requirements (five (5) years for the U.S. Environmental Protection Agency).

## D.2 RESPONSE TEAM EXERCISES

Qualified Individuals, Response Team members, government agencies, contractors, and other resources must participate in response exercises required by Federal, State, or Local regulations and as detailed in the “National Preparedness for Response Exercise Program (PREP) Guidelines.” The Company will conduct announced and unannounced drills to maintain compliance, and each Plan-Holder should either participate in or be familiar with at least one exercise in a triennial cycle. The following table lists the triennial exercise cycle for facilities (see PREP Guidelines for full details).

Triennial Cycle			
Frequency		Exercise Type/Description	Comments
Annual	Triennial		
4	12	QI Notification Exercise	This is a quarterly phone call/page to the QI or Alt.
1	3	Response Team Tabletop Exercise	In the triennial cycle, one SMT TTX must involve a worst case discharge scenario.
1	3	Equipment Deployment Exercise ( <i>OSRO-owned equipment</i> )	Letter stating that the OSRO has met the OSRO requirements for deployment in a similar environment.
1	3	Unannounced Exercise <i>Tabletop, equipment deployment or other response will be performed unannounced.</i> Actual response can be considered as an unannounced exercise.	Any emergency procedure exercise conducted unannounced would satisfy the facility's requirement for the annual unannounced exercise. This can be accomplished by an actual emergency response activity where the facility exercises any aspect of its emergency response procedures or by conducting an unannounced Table Top Exercise, or equipment deployment.

### Quarterly QI Notification Exercise

- **Scope:** Exercise communication between Facility personnel and the QI(s) and/or designated alternate(s). At least once each year, one of the notification exercises should be conducted during non-business hours.
- **Objective:** Contact must be made with a QI or designated alternate, as identified in the Plan.
- **General:** All personnel receiving notification shall respond to the notification and verify their receipt of the notification. Personnel who do not respond should be contacted to determine whether or not they received the notification.
- **Documentation:** Qualified Individual (QI) Notification Exercise in Appendix G.

## D.2 RESPONSE TEAM EXERCISES (Cont'd)

### *Annual Equipment Deployment Exercise (OSRO-owned equipment)*

- **Review:** The Facility should verify that the OSRO(s) has completed the equipment deployment exercise requirements and has maintained the necessary documentation. The OSRO may deploy equipment at any location, so long as it occurs within an operating environment similar to the Facility's.
- **Scope:** OSRO must deploy and operate response equipment similar to that identified in the response plan.
- **Objective:** OSRO must demonstrate the ability of the personnel (OSRO) to deploy and operate response equipment (OSRO). Ensure that the response equipment (OSRO) is in proper working order.
- **Documentation:** OSRO must submit annual letter stating that they have met all of the deployment requirements under their USCG rating.

### *Spill Management Team Tabletop Exercise*

- **Scope:** Exercise the response team's organization, communication, and decision-making in managing a spill response by conducting an annual Spill Management Team Tabletop Exercise (TTX).

Note: TXGLO requires annual notification to GLO and NRC which can be accomplished during the TTX.

- **Objective:** Exercise the response team in a review of the following:
  - Knowledge of the Plan.
  - Proper notifications.
  - Communications system.
  - Ability to access an OSRO.
  - Coordination of internal spill response personnel.
  - Review of the transition from a local team to a regional team.

## D.2 RESPONSE TEAM EXERCISES (Cont'd)

### *Spill Management Team Tabletop Exercise (Cont'd)*

- Ability to effectively coordinate response activity with the National Response System (NRS) Infrastructure.
- Ability to access information in the Area Contingency Plan.
- **General:** A minimum of one Spill Management Team Tabletop Exercise in a triennial cycle will involve a Worst-Case Discharge scenario.
- **Documentation:** Spill Management Team Tabletop Exercise in Appendix G.
- **Scope:** The Facility is required to conduct one unannounced exercise (Emergency procedures, tabletop, or equipment deployment) every 12 months or document an actual release.
- **Objective:** The Facility needs to test their emergency response procedures.
- **General:** This can be accomplished by an actual emergency response activity where the Facility exercises any aspect of its emergency response procedures or by conducting an unannounced Table Top Exercise, or equipment deployment.
- **Documentation:** Spill Management Team Tabletop Exercise in Appendix G.
- **Scope:** The Facility may be required to participate in an unannounced exercise every 36 months from the date of the last government-initiated unannounced exercise.
  - Exercises are limited to approximately four hours in duration.
  - Exercises would involve response to a Small/Average Most Probable Discharge scenario.
  - Exercise would involve equipment deployment to respond to a spill scenario.
- **Objective:** Conduct proper notifications to respond to unannounced scenario of a Small/Average Most Probable Discharge.
  - Demonstrate that the response is timely, conducted with an adequate amount of equipment for the scenario, and properly conducted.
- **General:** This exercise is only applicable to those facilities that are randomly chosen.

## D.2 RESPONSE TEAM EXERCISES (Cont'd)

### *Area Exercises*

- **Objective:** The purpose of the area exercise is to exercise the entire response community in a particular area. An area is defined as “that geographic area for which a separate and distinct Area Contingency Plan has been prepared, as described in OPA 90.” The response community includes the Federal, State, and Local government and industry. The area exercises are designed to exercise the government and industry interface for spill response.
- **General:** The goal is to ensure that all areas of the country are exercised triennially. All of the area exercises will be developed by an exercise design team. The exercise design team is comprised of representatives from the Federal, State, and Local government and industry. A lead plan holder would lead each area exercise. The lead plan holder is the organization (government or industry) that holds the primary plan that is exercised in the area exercise. The lead plan holder would have the final word on designing the scope and scenario of the exercise.

### *Exercise Documentation*

- All exercises should be documented and maintained at the facility; documentation should specify:
  - The type of exercise;
  - Date and time of the exercise;
  - A description of the exercise;
  - The objectives met in the exercise;
  - The components of the response plan exercised; and
  - Lessons learned (use Internal Exercise Documentation in Appendix G).
- All exercises should be documented using the forms in Appendix G.
- Exercise documentation should be kept on file for the required length of time depending on the regulating agency (e.g., five (5) years for the U.S. Environmental Protection Agency).



### D.3 PURPOSE OF REVIEW AND EVALUATION

This section provides procedures and information useful to responders for post incident/exercise review and evaluation. Post incident/exercise reviews should be conducted in a timely manner following an incident/exercise. The Plan should be evaluated to determine its usefulness during the incident/exercise and appropriate revisions should be made. All incident/exercise documentation should be included in the Plan evaluation process.

#### ***Outline of Review***

Given below are items a team composed of outside people knowledgeable in spill response and key members of the response teams should examine. These questions are intended as guidelines only; many other questions are likely to be appropriate at each stage of a critique.

- ***Detection***
  - Was the spill detected promptly?
  - How was it detected?
  - By whom?
  - Could it have been detected earlier? How?
  - Are any instruments or procedures available to consider which might aid in spill detection?
- ***Notification***
  - Were proper procedures followed in notifying government agencies? Were notifications prompt?
  - Was management notified promptly?
  - Was management response appropriate?
  - Was the Facility/Company notified promptly? If so, why, how, and who? If not, why not?
- ***Assessment/Evaluation***
  - Was the magnitude of the problem assessed correctly at the start?
  - What means were used for this assessment?
  - Are any guides or aids needed to assist spill evaluation?
  - What sources of information were available on winds and on-water currents?
  - Is our information adequate?
  - Was this information useful (and used) for spill trajectory forecasts? Were such forecasts realistic?
  - Do we have adequate information on product properties?
  - Do we need additional information on changes of product properties with time, i.e., as a result of weathering and other processes?

### D.3 PURPOSE OF REVIEW AND EVALUATION (Cont'd)

- ***Mobilization***
  - What steps were taken to mobilize spill countermeasures?
  - What resources were used?
  - Was mobilization prompt?
  - Could it have been speeded up or should it have been?
  - What about mobilization of manpower resources?
  - Was the local spill cooperative used appropriately?
  - How could this be improved?
  - Was it appropriate to mobilize the Facility/Company resources and was this promptly initiated?
  - What other corporate resources are available and have they been identified and used adequately?
- ***Response - Strategy***
  - Is there an adequate spill response plan for the location?
  - Is it flexible enough to cope with unexpected spill events?
  - Does the plan include clear understanding of local environmental sensitivities?
  - What was the initial strategy for response to this spill?
  - Is this strategy defined in the spill plan?
  - How did the strategy evolve and change during this spill and how were these changes implemented?
  - What caused such changes?
  - Are there improvements needed? More training?
- ***Response - Resources Used***
  - What resources were mobilized?
  - How were they mobilized?
  - How did resource utilization change with time? Why?
  - Were resources used effectively?
    - Contractors
    - Government agencies
    - Company resources
    - Cooperatives
    - Volunteers
    - Consultants
    - Other (e.g., bird rescue centers)

### D.3 PURPOSE OF REVIEW AND EVALUATION (Cont'd)

- ***Response - Resources Used (Cont'd)***
  - What changes would have been useful?
  - Do we have adequate knowledge of resource availability?
  - Do we have adequate knowledge of waste disposal capabilities?
- ***Response - Effectiveness***
  - Was containment effective and prompt?
  - How could it have been improved?
  - Should the location or the local cooperative have additional resources for containment?
  - Was recovery effective and prompt?
  - How could it have been improved?
  - Should the location or the local cooperative have additional resources for recovery of spilled product?
  - Was contaminated equipment disposed of promptly and safely?
  - Was there adequate in-house product separation, recovery, and disposal?
  - How could it have been improved?
  - Was there adequate outside disposal resources available?
- ***Command Structure***
  - Who was initially in charge of spill response?
  - What sort of organization was initially set up?
  - How did this change with time? Why?
  - What changes would have been useful?
  - Was there adequate surveillance?
  - Should there be any changes?
  - Were communications adequate?
  - What improvements are needed? Hardware, procedures, etc.
  - Was support from financial services adequate? Prompt?
  - Should there be any changes?
  - Is more planning needed?
  - Should financial procedures be developed to handle such incidents?

### D.3 PURPOSE OF REVIEW AND EVALUATION (Cont'd)

- **Measurement**

- Was there adequate measurement or estimation of the volume of product spilled?
- Was there adequate measurement or estimation of the volume of product recovered?
- Was there adequate measurement or estimation of the volume of product disposed of?
- Should better measurement procedures be developed for either phase of operations?
- If so, what would be appropriate and acceptable?

- **Government Relations**

- What are the roles and effects of the various government agencies that were involved?
- Was there a single focal point among the government agencies for contact?
- Were government agencies adequately informed at all stages?
- Should there have been better focus of communications to the agencies?
- Were government agencies adequately informed at all stages?
- Were too many agencies involved?
- Are any changes needed in procedures to manage government relations?
- Examples of affected U.S. agencies (there may be others):
  - U.S. Coast Guard
  - Environmental Protection Agency
  - National Oceanic Atmospheric Administration
  - Dept of Fish and Wildlife
  - State Parks
  - Harbors and Marinas
  - States
  - Cities
  - Counties
- Was there adequate agreement with the government agencies on disposal methods?
- Was there adequate agreement with the government agencies on criteria for cleanup?
- How was this agreement developed?
- Were we too agreeable with the agencies in accepting their requests for specific action items (e.g., degree of cleanup)?
- Should there be advance planning of criteria for cleanup, aimed at specific local environmentally sensitive areas? (Such criteria should probably also be designed for different types of product.)

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**D.3 PURPOSE OF REVIEW AND EVALUATION (Cont'd)**

- ***Public Relations***

- How were relations with the media handled?
- What problems were encountered?
- Are improvements needed?
- How could public outcry have been reduced? Was it serious?
- Would it be useful to undertake a public information effort to "educate" reporters about product and effects to it if spilled?
- These areas should be investigated shortly after the incident to assure that actions taken are fresh in peoples' minds.

## APPENDIX E

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### EVACUATION PLAN

	<u>Page</u>
E.1 Evacuation Plan.....	E-2
E.2 Evacuation Plan Diagrams.....	E-3



## **E.1 EVACUATION PLAN**

A condensed version of the Evacuation Plan is provided in the following paragraphs.

In the event of an evacuation, the primary goal is to move people immediately, on foot, to the nearest safe location. Should it become necessary to evacuate people from these facilities, the primary or secondary emergency egress routes will be utilized based on Site conditions at the time of the emergency.

The location of stored materials is identified in the Evacuation Plan Diagram in this Appendix. The hazard imposed by spilled material is dermal contact, inhalation, fire and explosion. Individual Material Safety Data Sheets are maintained separately on-site and provide more specific details.

The spill flow direction is identified in the Process Flow Diagram in SPCC Appendix A.

Evacuation will depend on prevailing winds for this area. Prevailing wind direction is from the south. Where windsocks are present, personnel are instructed to check wind direction in the event of an evacuation. Based on the location, hazard, and wind direction, personnel will alter their evacuation routes to avoid the spilled material or associated vapor cloud.

When a Facility evacuation is initiated, either by the emergency alarm system or by two-way radio, the employees should immediately leave their areas, after the proper shutdown if time allows, and report to their designated head count areas.

After the all clear signal, employees should return to their workstations and safely restart work procedures.

## **E.2 EVACUATION PLAN DIAGRAMS**

Evacuation diagrams are provided on pages E-3 to E-6 and posted at each Unit.

## EVACUATION PLAN DIAGRAMS





## **Appendix F**

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### **DISPOSAL PLAN**





## DISPOSAL PLAN

Recovered product, oil and any recoverable hydrocarbons will be transferred to the process equipment for reuse. An effort will be made to minimize the amount of waste resulting from a spill. Any contaminated soil, cleanup materials such as oily rags, spill booms, and sorbent materials will be collected, held in approved containers in regulated areas, and eventually sent off site for disposal to an approved facility. Waste minimization through the use of recycling, recovery, or treatment will be given a high priority.

Wastes deemed unsuitable for in-plant recycling will be shipped to approved waste management sites. Requirements for labeling, placarding, manifesting and permitting for these waste shipments will follow federal/state requirements.

The need to decant oil-contaminated water back into the environment is not anticipated. If such a need arises, pre-approval from the Federal On-Scene Commander must be obtained and other permits may be required due to environmental sensitivities. The Environmental Department will be responsible for obtaining all such approvals and permits.

Additional details on waste storage/disposal and sampling and waste analysis is provided in Sections 3.4 and 3.5, respectively.

## Appendix G

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### MISCELLANEOUS SAMPLE FORMS

	<u>Page</u>
Qualified Individual (QI) Notification Exercise - Internal Exercise Documentation.....	G-2
Spill Management Team Tabletop Exercise - Internal Exercise Documentation .....	G-4

#### **Forms and Exercise Documentation File Maintenance Procedures**

- Forms and exercise documentation records should be maintained in a separate file in the Facility's office filing system.
- These files must be available for presentation upon request by regulatory agency personnel.

**QUALIFIED INDIVIDUAL (QI) NOTIFICATION EXERCISE**  
**Internal Exercise Documentation Form**

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**INSTRUCTIONS FOR CONDUCTING QUARTERLY QI EXERCISES**

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**Within 24-hours of receipt of this notice, please complete the following steps:**

**1. Initiate a QI Notification.**

For this quarter's exercise, a Shift Director should:

- Initiate notification to the Qualified Individual (QI) or Alternate Qualified Individual (AQI) after normal business hours (between 1700 and 0700). This can be done by office phone, cell phone, home phone, radio, pager or other means.

**Notes:**

**Shift Director** – Shift Director should ensure that the method of communication is altered each quarter (i.e., cell phone, home phone, radio, etc.).

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**2. Complete the QI Notification Exercise Documentation form.**

Once notification is complete, the attached form should be filled out, printed and signed by the Shift Director who initiated the exercise.

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**3. The completed form should be forwarded to Mark Garvin in SOB 120 or scan and email to [mtgarvin@marathonpetroleum.com](mailto:mtgarvin@marathonpetroleum.com).**

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**5. Forward the original signed form to Mark Garvin.**

**Note:**

*Documentation should be retained on file at the Facility for 5 years per regulation.*

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***If you have any questions or need further assistance, please contact Mark Garvin at (409) 945 1758 OR.***

**QUALIFIED INDIVIDUAL (QI) NOTIFICATION EXERCISE**  
**Internal Exercise Documentation Form**

1	Date Performed: (day, month, year)	
2	Type of Exercise:	<input checked="" type="checkbox"/> Drill or <input type="checkbox"/> Actual Response
3	Facility Description:	Company: BP Texas City Site Facility Location: Refinery
4	Name of Person Conducting Notification:	
5	Name of QI Notified:	
6	Time Drill was Initiated:	
7	Time of Verbal Contact with QI:	
8	Method of Contact:	<input type="checkbox"/> Telephone <input type="checkbox"/> Pager <input type="checkbox"/> Radio <input type="checkbox"/> Other _____
9	Notification Procedure:	I contacted the above listed QI by the above listed method. The date and time was logged on the page.
10	Core PREP Components Exercised:	1. Notifications
11	Comments	

**Certifying Signature:** \_\_\_\_\_

**Name (Printed):** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Spill Management Team Tabletop Exercise****Internal Exercise Documentation**

1. Date(s) performed: \_\_\_\_\_
2. Exercise or actual response? \_\_\_\_\_ Exercise \_\_\_\_\_ Actual Response \_\_\_\_\_  
If an exercise, announced or unannounced? \_\_\_\_\_ Announced \_\_\_\_\_ Unannounced
3. Location of tabletop: \_\_\_\_\_
4. Time started: \_\_\_\_\_ Time completed: \_\_\_\_\_
5. Response plan scenario used (check one):  
☐ Average most probable discharge  
☐ Maximum most probable discharge  
☐ Worst case discharge  
Size of (simulated) spill \_\_\_\_\_
6. Describe how the following objectives were exercised:
  - a) Spill Management Team's knowledge of oil-spill response plan:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  - b) Proper notifications:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  - c) Communications system:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  - d) Spill Management Team's ability to access contracted oil spill removal organizations:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  - e) Spill Management Team's ability to coordinate spill response with On-Scene Coordinator, state, and applicable agencies:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Spill Management Team Tabletop Exercise

### Internal Exercise Documentation (Cont'd)

f) Spill Management Team's ability to access sensitive site and resource information in the Area Contingency Plan:

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- 7 Identify which of the 15 core components of your response plan were exercised during this particular exercise.

Organization Design:

- \_\_\_\_\_ 1. Notification  
\_\_\_\_\_ 2. Staff Mobilization  
\_\_\_\_\_ 3. Ability to operate within management system

Operational Response:

- \_\_\_\_\_ 4. Discharge Control  
\_\_\_\_\_ 5. Assessment  
\_\_\_\_\_ 6. Containment  
\_\_\_\_\_ 7. Recovery  
\_\_\_\_\_ 8. Protection  
\_\_\_\_\_ 9. Disposal

Response Support:

- \_\_\_\_\_ 10. Communications  
\_\_\_\_\_ 11. Transportation  
\_\_\_\_\_ 12. Personnel Support  
\_\_\_\_\_ 13. Equipment Maintenance and Support  
\_\_\_\_\_ 14. Procurement  
\_\_\_\_\_ 15. Documentation

8. Attach description of lesson(s) learned and person(s) responsible for follow up of corrective measures.

\_\_\_\_\_  
Certifying Signature

Retain this form for a minimum of three (3) years (for USCG/PHMSA/MMS) or five (5) years (for EPA).



## REGULATORY CROSS REFERENCE

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	<u>Page</u>
U.S. EPA - OPA 90 .....	Cross Ref-2
Discharge Prevention and Response Plans 31 TAC Section 19.13 .....	Cross Ref-5

U.S. EPA - OPA 90			
<i>40 CFR Part 112.20 (h) and Appendix F</i>			
40 CFR § 112.20 (h)	40 CFR § 112 APPENDIX F	BRIEF DESCRIPTION	LOCATION IN PLAN
-----	1.0	<b>Model Facility-Specific Response Plan</b>	-----
(1)	1.1	<b>Emergency Response Action Plan</b>	-----
(1)(i)		1. Qualified Individual Information	ERAP - QI Info
(1)(ii)		2. Emergency Notification Phone List	ERAP - Notifications
(1)(iii)		3. Spill Response Notification Form	ERAP - Notifications
(1) (iv)		4. Response Equipment List and Location	ERAP - Facility Equipment List
-----		5. Response Equipment Testing and Deployment	ERAP - Facility Equipment List
(1) (v)		6. Facility Response Team	ERAP - Local Response Team
(1) (vi)		7. Evacuation Plan	ERAP - Evacuation Diagram
(1) (vii)		8. Immediate Actions	ERAP - Initial Response Actions
(1) (viii)		9. Facility Diagram	ERAP - Facility Diagram
(2)	1.2	<b>Facility Information</b>	-----
	1.2.1	Facility name and location	Fig. 1.3
	1.2.2	Latitude and Longitude	Fig. 1.3
	1.2.3	Wellhead Protection Area	Fig. 1.3
	1.2.4	Owner/operator	Fig. 1.3
	1.2.5	Qualified Individual	Fig. 1.3
	1.2.6	Date of Oil Storage Start-up	Fig. 1.3
	1.2.7	Current Operation	Fig. 1.3
	1.2.8	Dates and Types of Substantial Expansion	Fig. 1.3
(3)	1.3	<b>Emergency Response Information</b>	-----
(3) (iii)	1.3.1	Notification	§ 2.0 (all)
(3) (i)	1.3.2	Response Equipment List / Location	App A
(3) (ii)	1.3.3	Response Equipment Testing/Deployment	App A
(3) (vi)	1.3.3	Response Equipment Testing/Deployment	App A
(3) (i)	1.3.4	Personnel	Fig. 2.1
(3) (iv)	----	A description of information to pass to response personnel	Fig. 2.3
(3) (v)	----	A description of response personnel capabilities, including:	-----
	----	• duties of persons at the Facility during a response action	Fig. 3.1
	----	• response times and qualifications...	§ 4.3, Fig. 2.1
(3) (ii)	----	• Evidence of Contractual Arrangements	App A
(3) (vii)	1.3.5	Evacuation Plan / Diagrams	App. E
(3) (viii)	1.3.5	Evacuation Plan / Diagrams	App. E
-----	1.3.6	Qualified Individual's Duties	§ 4.2
(3) (ix)	-----	A description of the duties of the qualified individual.	-----

U.S. EPA - OPA 90			
<b>40 CFR Part 112.20 (h) and Appendix F (Cont'd)</b>			
<b>40 CFR § 112.20 (h)</b>	<b>40 CFR § 112 APPENDIX F</b>	<b>BRIEF DESCRIPTION</b>	<b>LOCATION IN PLAN</b>
(3) (ix) (A)	-----	Activate internal alarms and hazard communications systems	§ 4.2
(3) (ix) (B)	-----	Notify all response personnel, as needed	§ 4.2
(3) (ix) (C)	-----	Identify the character, exact source, amount, and extent of release	§ 4.2
(3) (ix) (D)	-----	Notify and provide necessary information to the appropriate Federal, State, and local authorities	§ 4.2
(3) (ix) (E)	-----	Assess the interaction of the spilled substance with water and/or other substances stored at the Facility	§ 4.2
(3) (ix) (F)	-----	Assess the possible hazards to human health and environment	§ 4.2
(3) (ix) (G)	-----	Assess and implement prompt removal actions	§ 4.2
(3) (ix) (H)	-----	Coordinate rescue and response actions	§ 4.2
(3) (ix) (I)	-----	Use authority to immediately access company funding	§ 4.2
(3) (ix) (J)	-----	Direct cleanup activities until properly relieved	§ 4.2
(4)	1.4	<b>Hazard Evaluation</b>	-----
	1.4.1	Hazard Identification	App C
	1.4.2	Vulnerability Analysis	§ 6.0
	1.4.3	Analysis of the Potential for an Oil Spill	App C
	1.4.4	Facility Reportable Oil Spill History	App C
(5)	1.5	<b>Discharge Scenarios</b>	-----
(5) (ii)	1.5.1	Small and Medium Discharges	App B
(5) (iii)	1.5.2	Small and Medium Discharges	App B
(5) (i)	1.5.3	Worst Case Discharge	App B
(6)	1.6	<b>Discharge Detection Systems</b>	-----
	1.6.1	Discharge Detection by Personnel	App C.1
(3) (ix) (A)	1.6.2	Automated Discharge Detection	App C.1
(7)	1.7	<b>Plan Implementation</b>	-----
(7) (i)	1.7.1	Response actions to be carried out by facility personnel or contracted personnel, Response Resources for Small, Medium, and Worst Case Spills	§ 3.1, Fig. 3.1, 3.2, App A, B
(7) (iii)	1.7.2	Disposal Plans	App F
(7) (iv)	1.7.3	Containment and Drainage Planning	§ 3.1, Fig. 3.1

U.S. EPA - OPA 90 40 CFR Part 112.20 (h) and Appendix F (Cont'd)			
40 CFR § 112.20 (h)	40 CFR § 112 APPENDIX F	BRIEF DESCRIPTION	LOCATION IN PLAN
(8)	1.8	<b>Self-Inspection, Drills/Exercises, and Response Training</b>	-----
(8) (i)	1.8.1	Facility Self-Inspection	App C, G
(8) (i)	1.8.1.1	Tank Inspection / Secondary Containment	App C, G
(8) (i)	1.8.1.2	Response Equipment Inspection	App A, D
(8) (ii)	1.8.2	Facility Drills/Exercises	App D
(8) (iv)	1.8.2.1	Qualified Individual Notification Drill Log	App G
(8) (iv)	1.8.2.2	Spill Management Team Tabletop Exercise Log	App G
(8) (iii)	1.8.3	Response Training	App D
(8) (iv)	1.8.3.1	Personnel Response Training Log	App G
(8) (iv)	1.8.3.2	Discharge Prevention Meeting Log	App G
(9)	1.9	<b>Diagrams</b>	-----
		(1) Site Plan Diagram	Fig. 1.2
		(2) Site Drainage Plan Diagram	App C
		(3) Site Evacuation Plan Diagram	App E
(10)	1.10	<b>Security</b>	App C.1
(11)	2.0	<b>Response Plan Cover Sheet</b>	Fig. 1.3
-----	3.0	<b>Acronyms</b>	Glossary and Acronyms tab
40 CFR § 112.21	40 CFR § 112 APPENDIX F	BRIEF DESCRIPTION	LOCATION IN PLAN
(a)	1.8.2	Develop a training and drill program that satisfies the requirements of this section	App D
(b)	1.8.3	Develop a facility response training program to train personnel involved in response activities.	App D
(b)(1)	1.8.3	Proper instruction of facility personnel in the procedures to respond to discharges of oil and in applicable oil spill response laws, rules, and regulations`	App D
(b)(2)	1.8.3	Training shall be functional in nature according to job tasks for both supervisory and non-supervisory operational personnel	App D
(b)(3)	1.8.2	Trainers shall develop specific lesson plans on subject areas relevant to facility personnel involved in oil spill response and cleanup	App D
(c)	1.8.2	Develop a program of facility response drills/exercises, including evaluation procedures. Can follow PREP.	App D

<b>31 TAC Section 19.13</b>		
<b>§ 19.13</b>	<b>BRIEF DESCRIPTION</b>	<b>LOCATION IN PLAN</b>
(c)	Required elements of discharge prevention and response plans for all facility classifications.	-----
(1)	The owner and operator of the facility;	Fig. 1.3
(2)	The person or persons in charge of this facility....	Fig. 1.3
(3)	The name and address (both physical and mailing) of the facility;	Fig. 1.3
(4)	A description of the facility, including:	-----
(A)	The location of the facility by latitude and longitude;	Fig. 1.3
(B)	The facility's primary activity;	Fig. 1.3
(C)	The types of oil handled, whether material safety data sheets (MSDS) have been prepared for them, and the location where the MSDS are maintained;	Fig. 1.3
(D)	The storage capacity of each tank used for storing oil;	App C
(E)	The diameter of all lines through which oil is transferred;	
(F)	The average daily throughput of oil at the facility; and	Fig. 1.3
(G)	The dimensions and capacity in barrels of the largest oil-handling vessel which docks at the facility	Fig. 1.3
(5)	For a facility which normally does not have personnel on-site...	N/A
(6)	A general description of measures taken by the facility to prevent unauthorized discharges of oil;	§3.0
(7)	A plan to conduct an annual oil spill drill that entails notifying the GLO and National Response Center and keeping a log...	App. D
(8)	If oil is transferred at the facility, emergency transfer procedures to be implemented if an actual or threatened unauthorized discharge of oil occurs at the facility;	App. B
(9)	Strategic plans to contain and clean up unauthorized discharges of oil from the facility;	§3.0
(10)	A statement that all facility personnel who might be involved in an oil spill response have been informed that detergents or other surfactants are prohibited from being used on an oil spill in the water, and that dispersants can only be used with the approval of the Regional Response Team...	§6.6.2
(11)	A description of any secondary containment or diversionary structures or equipment at the facility to prevent discharged oil from reaching coastal waters...	App C
(e)	Additional requirements for facilities classified as large	-----
(1)	Maps showing vehicular access to the facility, pipelines to and from the facility, and nearby residential or other populous areas;	Fig. 1.1
(2)	A site plan of the facility showing:	-----
(A)	The location of all structures in which oil is stored;	Fig. 1.2
(B)	The location of all areas where oil is transferred at the facility; and	Fig. 1.2
(C)	Drainage and diversion systems at the facility...	App C
(3)	A plan to conduct an annual oil spill drill that includes the following elements:	-----
(A)	Notifying the GLO and National Response Center;	App. D
(B)	Notifying any third parties, such as discharge cleanup organizations	App. D

<b>31 TAC Section 19.13 (Cont'd)</b>		
<b>§ 19.13</b>	<b>BRIEF DESCRIPTION</b>	<b>LOCATION IN PLAN</b>
(C)	If the facility has spill response equipment stored on-site, deployment of a representative portion of the equipment which would be used to respond	App. D
(D)	A log documenting when the annual drill was conducted and the facility personnel who participated in it;	App. G
(4)	A detailed description of the facility's discharge prevention and response capability, including:	----
(A)	Leak detection and safety systems to prevent accidental discharges	App C
(B)	Schedules, methods, and procedures for testing, maintaining, and inspecting storage tanks, pipelines, and other equipment used for handling oil;	App C
(C)	Schedules, methods, and procedures for conducting accidental discharge response drills;	App. D
(D)	Whether the facility's oil spill response capability will primarily be based on contracts or agreements with third parties or on the facility's own personnel and equipment;	App. A
(E)	Planned response actions, the chain of command, lines of communication, and procedures for notifying the GLO, emergency response and public safety entities;	§3.0, 4.0
(F)	Oil spill response equipment and supplies located at the facility;	App. A
(G)	If the facility owns and maintains oil spill response equipment, the schedules, methods, and procedures for maintaining the equipment;	App. D
(H)	If the operator has entered into any oil spill response or cleanup contracts or basic ordering agreements with a discharge cleanup organization, copies of the contracts or agreements or a narrative description of their terms;	App. A
(I)	The worst case unauthorized discharge of oil reasonably likely to occur at the facility and the rationale used to determine the worst case unauthorized discharge;	App. B
(J)	A description and map of environmentally sensitive areas that would be impacted by the worst case unauthorized discharge;	§6.0
(K)	A description of response strategies that would be implemented to contain and clean up worst case unauthorized discharge;	§6.0
(L)	Information on the facility's program for training facility personnel;	App. D
(M)	Information on facility personnel who have been specifically designated to respond to an oil spill, including any training they have received and where the training records are maintained;	Fig. 2.1, App. D
(N)	Plans for transferring oil during an emergency; plans for recovering, storing, separating, transporting, and disposing of oily waste materials generated during an oil spill response; and	App. B
(O)	Plans for providing emergency medical treatment, site safety, and security during an oil spill	§3.0



## **GLOSSARY OF TERMS/ACRONYMS**

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	<u>Page</u>
Glossary of Terms.....	Glossary/Acronyms-2
Acronyms .....	Glossary/Acronyms-10

This glossary contains definitions of terms that will be used frequently during the course of response operations.

**Activate: The process of mobilizing personnel and/or equipment within the response organization to engage in response operations.**

**Activator:** An individual in the response organization whose responsibilities include notifying other individuals or groups within the organization to mobilize personnel and/or equipment.

**Adverse Weather:** The weather conditions that will be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height, ice, temperature, weather-related visibility, and currents within the Captain of the Port (COTP) zone in which the systems or equipment are intended to function.

**Agency Representative:** Individual assigned to an incident from an agency who has been delegated full authority to make decisions on all matters affecting that agency's participation in response operations.

**Area Committee:** As defined by Sections 311(a)(18) and (j)(4) of CWA, as amended by OPA, means the entity appointed by the President consisting of members from Federal, State, and local agencies with responsibilities that include preparing an Area Contingency Plan for the area designated by the President. The Area Committee may include ex-officio (i.e., non-voting) members (e.g., industry and local interest groups).

**Area Contingency Plan:** As defined by Sections 311(a)(19) and (j)(4) of CWA, as amended by OPA, means the plan prepared by an Area Committee, that in conjunction with the NCP, shall address the removal of a discharge including a worst-case discharge and the mitigation or prevention of a substantial threat of such a discharge from a vessel, offshore facility, or onshore facility operating in or near an area designated by the President.

**Average Most Probable Discharge:** A discharge of the lesser of 50 barrels or 1% of the volume of the worst case discharge.

**Barrel (bbl):** Measure of space occupied by 42 U.S. gallons at 60 degrees Fahrenheit.

**Bioremediation Agents:** Means microbiological cultures, enzyme additives, or nutrient additives that are deliberately introduced into an oil discharge and that will significantly increase the rate of biodegradation to mitigate the effects of the discharge.

**Boom:** A piece of equipment or a strategy used to either contain free floating oil to a confined area or protect an uncontaminated area from intrusion by oil.

**Booming Strategies:** Strategic techniques which identify the location and quantity of boom required to protect certain areas. These techniques are generated by identifying a potential spill source and assuming certain conditions which would affect spill movement on water.

**Bulk:** Material that is stored or transported in a loose, unpackaged liquid, powder, or granular form capable of being conveyed by a pipe, bucket, chute, or belt system.

**Chemical Agents:** Means those elements, compounds, or mixtures that coagulate, disperse, dissolve, emulsify, foam, neutralize, precipitate, reduce, solubilize, oxidize, concentrate, congeal, entrap, fix, make the pollutant mass more rigid or viscous, or otherwise facilitate the mitigation of deleterious effects or the removal of the oil pollutant from the water. Chemical agents include biological additives, dispersants, sinking agents, miscellaneous oil spill control agents, and burning agents, but do not include solvents.

**Clean-up Contractor:** Persons contracted to undertake a response action to clean up a spill.

**Cleanup:** For the purposes of this document, cleanup refers to the removal and/or treatment of oil, hazardous substances, and/or the waste or contaminated materials generated by the incident. Cleanup includes restoration of the site and its natural resources.

**Coastal Waters:** For the purpose of classifying the size of discharges, means the waters of the coastal zone except for the Great Lakes and specified ports and harbors on inland rivers.

**Coastal Zone:** As defined for the purpose of the NCP, means all United States waters subject to the tide, United States waters of the Great Lakes, specified ports and harbors on inland rivers, waters of the contiguous zone, other waters of the high seas subject to the NCP, and the land surface or land substrata, ground waters, and ambient air proximal to those waters. The term coastal zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans.

**Coast Guard District Response Ground (DRG):** As provided for by CWA sections 311(a)(20) and (j)(3), means the entity established by the Secretary of the department in which the USCG is operating within each USCG district and shall consist of: the combined USCG personnel and equipment, including firefighting equipment, of each port within the district; additional prepositioned response equipment; and a district response advisory team.

**Command:** The act of controlling manpower and equipment resources by virtue of explicit or delegated authority.

**Command Post:** A site located at a safe distance from the spill site where response decisions are made, equipment and manpower deployed, and communications handled. The Incident Commander and the On-Scene Coordinators may direct the on-scene response from this location.

**Communications Equipment:** Equipment that will be utilized during response operations to maintain communication between the Company employees, contractors, Federal/State/Local agencies. (Radio/telephone equipment and links)

**Containment Boom:** A flotation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to entrap and contain the product for recovery.

**Contingency Plan:** A document used by (1) federal, state, and local agencies to guide their planning and response procedures regarding spills of oil, hazardous substances, or other emergencies; (2) a document used by industry as a response plan to spills of oil, hazardous substances, or other emergencies occurring upon their vessels or at their facilities.

**Contract or Other Approved Means:** For OPA 90, a written contract with a response contractor; certification by the facility owner or operator that personnel and equipment are owned, operated, or under the direct control of the facility, and available within the stipulated times; active membership in a local or regional oil spill removal organization; and/or the facility's own equipment.

**Critical Areas to Monitor:** Areas which if impacted by spilled oil may result in threats to public safety or health.

**Cultural Resources:** Current, historic, prehistoric and archaeological resources which include deposits, structures, ruins, sites, buildings, graves, artifacts, fossils, or other objects of antiquity which provide information pertaining to the historical or prehistorical culture of people in the state as well as to the natural history of the state.

**Damage Assessment:** The process of determining and measuring damages and injury to the human environment and natural resources, including cultural resources. Damages include differences between the conditions and use of natural resources and the human environment that would have occurred without the incident, and the conditions and use that ensued following the incident. Damage assessment includes planning for restoration and determining the costs of restoration.

**Decontamination:** The removal of hazardous substances from personnel and their equipment necessary to prevent adverse health effects.

**Discharge:** Any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

**Dispersants:** Means those chemical agents that emulsify, disperse, or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.

**Diversion Boom:** A floatation/freeboard device, made with a skirt/curtain, longitudinal strength member, and ballast unit/weight designed to deflect or divert the product towards a pick up point, or away from certain areas.

**Drinking Water Supply:** As defined by Section 101(7) of CERCLA, means any raw or finished water source that is or may be used by a public water system (as defined in the Safe Drinking Water Act) or as drinking water by one or more individuals.

**Economically Sensitive Areas:** Those areas of explicit economic importance to the public that due to their proximity to potential spill sources may require special protection and include, but are not limited to: potable and industrial water intakes; locks and dams; and public and private marinas.

**Emergency Service:** Those activities provided by state and local government to prepare for and carry out any activity to prevent, minimize, respond to, or recover from an emergency.

**Environmentally Sensitive Areas:** Streams and water bodies, aquifer recharge zones, springs, wetlands, agricultural areas, bird rookeries, endangered or threatened species (flora and fauna) habitat, wildlife preserves or conservation areas, parks, beaches, dunes, or any other area protected or managed for its natural resource value.

**Facility:** Either an onshore facility or an offshore facility and includes, but is not limited to structures, equipment, and appurtenances thereto, used or capable of being used to transfer oil to or from a vessel or a public vessel. A facility includes federal, state, municipal, and private facilities.

**Facility Operator:** The person who owns, operates, or is responsible for the operation of the facility.

**Federal Fund:** The spill liability trust fund established under OPA.

**Federal Regional Response Team:** The federal response organization (consisting of representatives from selected federal and state agencies) which acts as a regional body responsible for planning and preparedness before an oil spill occurs and providing advice to the FOSC in the event of a major or substantial spill.

**Federal Response Plan (FRP):** Means the agreement signed by 25 federal departments and agencies in April 1987 and developed under the authorities of the Earthquake Hazards Reduction Act of 1977 and the Disaster Relief Act of 1974, as amended by the Stafford Disaster Relief Act of 1988.

**First Responders, First Response Agency:** A public health or safety agency (e.g., fire service or police department) charged with responding to a spill during the emergency phase and alleviating immediate danger to human life, health, safety, or property.

**Handle:** To transfer, transport, pump, treat, process, store, dispose of, drill for, or produce.

**Harmful Quantity Of Oil:** The presence of oil from an unauthorized discharge in a quantity sufficient either to create a visible film or sheen upon or discoloration of the surface of the water or a shoreline, tidal flat, beach, or marsh, or to cause a sludge or emulsion to be deposited beneath the surface of the water or on a shoreline, tidal flat, beach, or marsh.

**Hazardous Material:** Any nonradioactive solid, liquid, or gaseous substance which, when uncontrolled, may be harmful to humans, animals, or the environment. Including but not limited to substances otherwise defined as hazardous wastes, dangerous wastes, extremely hazardous wastes, oil, or pollutants.

**Hazardous Substance:** Any substance designed as such by the Administrator of the EPA pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act; regulated pursuant to Section 311 of the Federal Water Pollution Control Act, or discharged by the SERC.

**Hazardous Waste:** Any solid waste identified or listed as a hazardous waste by the Administrator of the EPA pursuant to the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 U.S.C.,

Section 6901, et seq as amended. The EPA Administrator has identified the characteristics of hazardous wastes and listed certain wastes as hazardous in Title 40 of the Code of Federal Regulations, Part 261, Subparts C and D respectively.

**HAZMAT:** Hazardous materials or hazardous substances, exposure to which may result in adverse effects on health or safety of employees.

**HAZWOPER:** Hazardous Waste Operations and Emergency Response Regulations published by OSHA to cover worker safety and health aspects of response operations.

**Heat Stress:** Dangerous physical condition caused by over exposure to extremely high temperatures.

**Hypothermia:** Dangerous physical condition caused by over exposure to freezing temperatures.

**Incident:** Any event that results in a spill or release of oil or hazardous materials. Action by emergency service personnel may be required to prevent or minimize loss of life or damage to property and/or natural resources.

**Incident Briefing Meeting:** Held to develop a comprehensive, accurate, and up-to-date understanding of the incident, nature of status of control operations, and nature and status of response operations; ensure the adequacy of control and response operations; begin to organize control and response operations; and prepare for interactions with outside world.

**Incident Command Post (ICP):** That location at which all primary command functions are executed.

**Incident Command System (ICS):** The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with responsibility for the management of assigned resources at an incident.

**Incident Commander (IC):** The one individual in charge at any given time of an incident. The Incident Commander will be responsible for establishing a unified command with all on-scene coordinators.

**Indian Tribe:** As defined in OPA section 1001, means any Indian tribe, band, nation, or other organized group or community, but not including any Alaska Native regional or village corporation, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians and has governmental authority over lands belonging to or controlled by the Tribe.

**Initial Cleanup:** Remedial action at a site to eliminate acute hazards associated with a spill. An initial clean-up action is implemented at a site when a spill of material is an actual or potentially imminent threat to public health or the environment, or difficulty of cleanup increases significantly without timely remedial action. All sites must be evaluated to determine whether initial cleanup is total cleanup, however, this will not be possible in all cases due to site conditions (i.e., a site where overland transport or flooding may occur).

**Initial Notification:** The process of notifying necessary the Company personnel and Federal/State/Local agencies that a spill has occurred, including all pertinent available information surrounding the incident.

**Initial Response Actions:** The immediate actions that are to be taken by the spill observer after detection of a spill.

**Inland Area** means the area shoreward of the boundary lines defined in 46 CFR part 7, except that in the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines) as defined in §80.740 through 80.850 of this chapter. The inland area does not include the Great Lakes.

**Inland Waters:** State waters not considered coastal waters; lakes, rivers, ponds, streams, underground water, et. al.

**Inland Zone:** Means the environment inland of the coastal zone excluding the Great Lakes, and specified ports and harbors on inland rivers. The term inland zone delineates an area of federal responsibility for response action. Precise boundaries are determined by EPA/USCG agreements and identified in federal regional contingency plans.

**Interim Storage Site:** A site used to temporarily store recovered oil or oily waste until the recovered oil or oily waste is disposed of at a permanent disposal site. Interim storage sites include trucks, barges, and other vehicles, used to store waste until the transport begins.

**Lead Agency:** The government agency that assumes the lead for directing response activities.

**Lead Federal Agency:** The agency which coordinates the federal response to incident on navigable waters. The lead federal agencies are:

- **U.S. Coast Guard:** Oil and chemically hazardous materials incidents on navigable waters.

- **Environmental Protection Agency:** Oil and chemically hazardous materials incidents on inland waters.

**Lead State Agency:** The agency which coordinates state support to federal and/or local governments or assumes the lead in the absence of federal response.

**Loading:** Transfer from Facility to vehicle.

**Local Emergency Planning Committee (LEPC):** A group of local representatives appointed by the State Emergency Response Commission (SERC) to prepare a comprehensive emergency plan for the local emergency planning district, as required by the Emergency Planning and Community Right-to-know Act (EPCRA).

**Local Response Team:** Designated Facility individuals who will fulfill the roles determined in the oil spill response plan in the event of an oil or hazardous substance spill. They will supervise and control all response and clean-up operations.

**Lower Explosive Limit:** Air measurement utilized to determine the lowest concentration of vapors that support combustion. This measurement must be made prior to entry into a spill area.

**Marinas:** Small harbors with docks, services, etc. for pleasure craft.

**Medium Discharge:** Means a discharge greater than 2,100 gallons (50 Bbls) and less than or equal to 36,000 gallons (85+ Bbls) or 10% of the capacity of the largest tank, whichever is less and not to exceed the WCD.

**National Contingency Plan:** The plan prepared under the Federal Water Pollution Control Act (33 United State Code §1321 et seq) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 United State Code § 9601 et seq), as revised from time to time.

**National Pollution Funds Center (NPFC):** Means the entity established by the Secretary of Transportation whose function is the administration of the Oil Spill Liability Trust Fund (OSLTF). Among the NPFC's duties are: providing appropriate access to the OSLTF for federal agencies and states for removal actions and for federal trustees to initiate the assessment of natural resource damages; providing appropriate access to the OSLTF for claims; and coordinating cost recovery efforts.



**National Response System (NRS):** Is the mechanism for coordinating response actions by all levels of government in support of the OSC. The NRS is composed of the NRT, RRTs, OSC, Area Committees, and Special Teams and related support entities.

**National Strike Force (NSF):** Is a special team established by the USCG, including the three USCG Strike Teams, the Public Information Assist Team (PIAT), and the National Strike Force Coordination Center. The NSF is available to assist OSCs in their preparedness and response duties.

**National Strike Force Coordination Center (NSFCC):** Authorized as the National Response Unit by CWA section 311(a)(23) and (j)(2), means the entity established by the Secretary of the department in which the USCG is operating at Elizabeth City, North Carolina, with responsibilities that include administration of the USCG Strike Teams, maintenance of response equipment inventories and logistic networks, and conducting a national exercise program.

**Natural Resource:** Land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to or otherwise controlled by the state, federal government, private parties, or a municipality.

**Navigable Waters:** As defined by 40 CFR 110.1 means the waters of the United States, including the territorial seas. The term includes:

All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;

Interstate waters, including interstate wetlands;

All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, and wetlands, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters;

That are or could be used by interstate or foreign travelers for recreational or other purposes;

From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; and

That are used or could be used for industrial purposes by industries in interstate commerce.

All impoundments of waters otherwise defined as navigable waters under this section;

Tributaries of waters identified in paragraphs (a) through (d) of this definition, including adjacent wetlands; and

Wetlands adjacent to waters identified in paragraphs (a) through (e) of this definition: Provided, that waste treatment systems (other than cooling ponds meeting the criteria of this paragraph) are not waters of the United States.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act jurisdiction remains with EPA.

**Nearshore Area:** For OPA 90, the area extending seaward 12 miles from the boundary lines defined in 46 CFR Part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending seaward 12 miles from the line of demarcation defined in §80.740 - 80.850 of title 33 of the CFR.

**Non-persistent or Group I Oil:** A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions:

1. At least 50% of which by volume, distill at a temperature of 340 degrees C (645 degrees F);
2. At least 95% of which volume, distill at a temperature of 370 degrees C (700 degrees F).

**Ocean:** The open ocean, offshore area, and nearshore area as defined in this subpart.

**Offshore area:** The area up to 38 nautical miles seaward of the outer boundary of the nearshore area.

**Oil or Oils:** Naturally occurring liquid hydrocarbons at atmospheric temperature and pressure coming from the earth, including condensate and natural gasoline, and any fractionation thereof, including, but not limited to, crude oil, petroleum gasoline, fuel oil, diesel oil, oil sludge, oil refuse, and oil mixed with wastes other than dredged spoil. Oil does not include any substance listed in Table 302.4 of 40 CFR Part 302 adopted August 14, 1989, under Section 101(14) of the federal comprehensive environmental response, compensation, and liability act of 1980, as amended by P. L. 99-499.

**Oil Spill Liability Trust Fund:** Means the fund established under section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509).



**Oily Waste:** Product contaminated waste resulting from a spill or spill response operations.

**On-Scene Coordinator (OSC):** Means the federal official predesignated by the EPA or the USCG to coordinate and direct response under subpart D.

**On-site:** Means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of a response action.

**Open Ocean:** means the area from 38 nautical miles seaward of the outer boundary of the nearshore area, to the seaward boundary of the exclusive economic zone.

**Owner or Operator:** Any person, individual, partnership, corporation, association, governmental unit, or public or private organization of any character.

**Persistent Oil:** A petroleum-based oil that does not meet the distillation criteria for a non-persistent oil. For the purposes of this Appendix, persistent oils are further classified based on specific gravity as follows:

1. Group II specific gravity less than .85
2. Group III specific gravity between .85 and less than .95
3. Group IV specific gravity .95 and including 1.0
4. Group V specific gravity greater than 1.0

**Plan Holder:** The plan holder is the industry transportation related facility for which a response plan is required by federal regulation to be submitted by a vessel or facility's owner or operator.

**Post Emergency Response:** The portion of a response performed after the immediate threat of a release has been stabilized or eliminated and cleanup of the sites has begun.

**Post Emergency:** The phase of response operations conducted after the immediate threat of the release has been stabilized, and cleanup operations have begun.

**Primary Response Contractors or Contractors:** An individual, company, or cooperative that has contracted directly with the plan holder to provide equipment and/or personnel for the containment or cleanup of spilled oil.

**Qualified Individual (QI):** That English-speaking person or entity, located in the United States, available on a 24-hour basis, who has authority to activate a spill cleanup contractors, act as liaison with the "On-Scene Coordinator" and obligate funds required to effectuate response activities.

**Recreation Areas:** Publicly accessible locations where social/sporting events take place.

**Regional Response Team (RRT):** The Federal response organization (consisting of representatives from selected Federal and State agencies) which acts as a regional body responsible for overall planning and preparedness for oil and hazardous materials releases and for providing advice to the OSC in the event of a major or substantial spill.

**Remove or Removal:** As defined by section 311(a)(8) of the CWA, refers to containment and removal of oil or hazardous substances from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare (including, but not limited to, fish, shellfish, wildlife, public and private property, and shorelines and beaches) or to the environment. For the purpose of the NCP, the term also includes monitoring of action to remove discharge.

**Response Activities:** The containment and removal of oil from the water and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to public health or welfare, or the environment.

**Response Contractors:** Persons/companies contracted to undertake a response action to contain and/or clean up a spill.

**Response Guidelines:** Guidelines for initial response that are based on the type of product involved in the spill, these guidelines are utilized to determine clean-up methods and equipment.

**Response Plan:** A practical manual used by industry for responding to a spill. Its features include: (1) identifying the notifications sequence, responsibilities, response techniques, etc. in a easy to use format; (2) using decision trees, flowcharts, and checklists to ensure the proper response for spills with varying characteristics; and (3) segregating information needed during the response from data required by regulatory agencies to prevent confusion during a spill incident.

**Response Resources:** All personnel and major items of equipment available, or potentially available, for assignment to incident tasks on which status is maintained.

**Responsible Party:** Any person, owner/operator, or facility that has control over an oil or hazardous substance immediately before entry of the oil or hazardous substance into the atmosphere or in or upon the water, surface, or subsurface land of the state.

**Response Priorities:** Mechanism used to maximize the effective use of manpower and equipment resources based upon their availability during an operational period.

**Response Resources:** All personnel and major items of equipment available, or potentially available, for assignment to incident tasks on which status is maintained.

**Restoration:** The actions involved in returning a site to its former condition.

**Rivers and Canals:** A body of water confined within the inland area that has a project depth of 12 feet or less, including the Intracoastal Waterway and other waterways artificially created for navigation.

**Securing the Source:** Steps that must be taken to stop discharge of oil at the source of the spill.

**Sinking Agents:** Means those additives applied to oil discharges to sink floating pollutants below the water surface.

**Site Characterization:** An evaluation of a cleanup site to determine the appropriate safety and health procedures needed to protect employees from identified hazards.

**Site Conditions:** Details of the area surrounding the facility, including shoreline descriptions, typical weather conditions, socioeconomic breakdowns, etc.

**Site Safety and Health Plan:** A site specific plan developed at the time of an incident that addresses:

- Safety and health hazard analysis for each operation.
- Personal protective equipment to be used.
- Training requirements for site workers.
- Medical surveillance requirements.
- Air monitoring requirements.
- Site control measures.
- Decontamination procedures.
- Emergency response procedures.
- Confined space entry procedures.

**Site Security and Control:** Steps that must be taken to provide safeguards needed to protect personnel and property, as well as the general public, to ensure an efficient clean-up operation.

**Skimmers:** Mechanical devices used to skim the surface of the water and recover floating oil. Skimmers fall into four basic categories (suction heads, floating weirs, oleophilic surface units, and hydrodynamic devices) which vary in efficiency depending on the type of oil and size of spill.

**Snare Boom:** Oil will adhere to the material of which this boom is made of and thus collect it.

**Sorbents:** Materials ranging from natural products to synthetic polymeric foams placed in confined areas to soak up small quantities of oil. Sorbents are very effective in protecting walkways, boat decks, working areas, and previously uncontaminated or cleaned areas.

**Spill:** An unauthorized discharge of oil or hazardous substance into the waters of the state.

**Spill Observer:** The first Facility individual who discovers a spill. This individual must function as the first responder and person-in-charge until relieved by an authorized supervisor.

**Spill of National Significance (SONS):** Means a spill which due to its severity, size, location, actual or potential impact on the public health and welfare or the environment, or the necessary response effort, is so complex that it requires extraordinary coordination of federal, state, local, and responsible party resources to contain and cleanup the discharge.

**Spill Management Team:** The personnel identified to staff the organizational structure identified in a response plan to manage response plan implementation.

**Spill Response:** All actions taken in responding to spills of oil and hazardous materials, e.g.: receiving and making notifications; information gathering and technical advisory phone calls; preparation for and travel to and from spill sites; direction of clean-up activities; damage assessments; report writing, enforcement investigations and actions; cost recovery; and program development.

**Spill Response Personnel:** Federal, state, local agency, and industry personnel responsible for participating in or otherwise involved in spill response. All spill response personnel will be pre-approved on a list maintained in each region.

**Staging Areas:** Designated areas near the spill site accessible for gathering and deploying equipment and/or personnel.

**State Emergency Response Commission (SERC):** A group of officials appointed by the Governor to implement the provisions of Title III of the Federal Superfund Amendments and Re-authorization Act of 1986 (SARA). The SERC approves the State Oil and Hazardous Substance Discharge Prevention and Contingency Plan and Local Emergency Response Plans.

**Surface Collecting Agents:** Means those chemical agents that form a surface film to control the layer thickness of oil.

**Surface Washing Agent:** Is any product that removes oil from solid surfaces, such as beaches and rocks, through a detergency mechanism and does not involve dispersing or solubilizing the oil into the water column.

**Tanker:** A self-propelled tank vessel constructed or adapted primarily to carry or hazardous material in bulk in the cargo spaces.

**Tidal Current Tables:** Tables which contain the predicted times and heights of the high and low waters for each day of the year for designated areas.

**Trajectory Analysis:** Estimates made concerning spill size, location, and movement through aerial surveillance or computer models.

**Transfer:** Any movement of oil to, from, or within a vessel by means of pumping, gravitation, or displacement.

**Trustee:** Means an official of a federal natural resources management agency designated in subpart G of the NCP or a designated state official or Indian tribe or, in the case of discharges covered by the OPA, a foreign government official, who may pursue claims for damages under section 1006 of the OPA.

**Underwriter:** An insurer, a surety company, a guarantor, or any other person, other than an owner or operator of a vessel or facility, that undertakes to pay all or part of the liability of an owner or operator.

**Unified Command:** The method by which local, state, and federal agencies and the responsible party will work with the Incident Commander to:

- Determine their roles and responsibilities for a given incident.

- Determine their overall objectives for management of an incident.
- Select a strategy to achieve agreed-upon objectives.
- Deploy resources to achieve agreed-upon objectives.

**Unified or Coordinated Command Meeting:** Held to obtain agreement on strategic objectives and response priorities; review tactical strategies; engage in joint planning, integrate response operations; maximize use of resources; and minimize resolve conflicts.

**Volunteers:** An individual who donates their services or time without receiving monetary compensation.

**Waste:** Oil or contaminated soil, debris, and other substances removed from coastal waters and adjacent waters, shorelines, estuaries, tidal flats, beaches, or marshes in response to an unauthorized discharge. Waste means any solid, liquid, or other material intended to be disposed of or discarded and generated as a result of an unauthorized discharge of oil. Waste does not include substances intended to be recycled if they are in fact recycled within 90 days of their generation or if they are brought to a recycling facility within that time.

**Waters of the U.S. - See Navigable Waters**

**Wetlands:** Those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds (40 CFR 112.2(y)).

**Wildlife Rescue:** Efforts made in conjunction with Federal and State agencies to retrieve, clean, and rehabilitate birds and wildlife affected by an oil spill.

**Worst Case Discharge:** The largest foreseeable discharge under adverse weather conditions. For facilities located above the high water line of coastal waters, a worst case discharge includes those weather conditions most likely to cause oil discharged from the facility to enter coastal waters.

**Glossary of Terms & Acronyms****Acronyms**

<b>AC</b>	-	Area Committee	<b>GSA</b>	-	General Services Administration
<b>AOR</b>	-	Area of Review	<b>HAZWOPER</b>	-	Hazardous Waste Operations and Emergency Response
<b>AQI</b>	-	Alternate Qualified Individual	<b>HHS</b>	-	Department of Health and Human Services
<b>BPD</b>	-	Barrels Per Day	<b>LEPC</b>	-	Local Emergency Planning Committee
<b>BOD</b>	-	Biological Oxygen Demand	<b>LFL</b>	-	Lower Flammable Limit
<b>CAER</b>	-	Community Awareness and Emergency Response	<b>LOSC</b>	-	Local On-Scene Coordinator
<b>CERCLA</b>	-	Comprehensive Environmental Response, Compensation and Liability Act	<b>LRT</b>	-	Local Response Team
<b>CFR</b>	-	Code of Federal Regulations	<b>MBL</b>	-	Mobile
<b>CHEMTREC</b>	-	Chemical Transportation Emergency Center	<b>MER</b>	-	Marine Emergency Response
<b>COTP</b>	-	Captain of the Port Zone	<b>MMS</b>	-	Minerals Management Service
<b>CRZ</b>	-	Contamination Reduction Zone	<b>MMT</b>	-	Marine Management Team
<b>CWA</b>	-	Clean Water Act (Federal - Public Law 100-4)	<b>MOU</b>	-	Memorandum of Understanding
<b>CWS</b>	-	Community Water System	<b>MSDS</b>	-	Material Safety Data Sheet
<b>CZM</b>	-	Coastal Zone Management	<b>MSO</b>	-	Marine Safety Office
<b>DECON</b>	-	Decontamination	<b>MSRC</b>	-	Marine Spill Response Corporation
<b>DOT</b>	-	Department of Transportation	<b>NCP</b>	-	National Contingency Plan
<b>EHS</b>	-	Extremely Hazardous Substance	<b>NCWS</b>	-	Non-Community Water System
<b>EMA</b>	-	Emergency Management Agency	<b>NEPA</b>	-	National Environmental Policy Act
<b>EMS</b>	-	Emergency Medical Service	<b>NIOSH</b>	-	National Institute for Occupational Safety and Health
<b>EOC</b>	-	Emergency Operations Center	<b>NMFS</b>	-	National Marine Fisheries Service
<b>EPA</b>	-	U. S. Environmental Protection Agency	<b>NOAA</b>	-	National Oceanic and Atmospheric Administration (Department of Commerce)
<b>EPCRA</b>	-	Emergency Planning and Community Right-to-Know Act of 1986 (Title III of SARA)	<b>NPS</b>	-	National Park Service
<b>EQ</b>	-	Environmental Quality	<b>NRC</b>	-	National Response Center
<b>ESA</b>	-	Endangered Species Act	<b>NRDA</b>	-	Natural Resource Damage Assessment
<b>ETA</b>	-	Estimated Time of Arrival	<b>NRS</b>	-	National Response System
<b>FAA</b>	-	Federal Aviation Administration	<b>NRT</b>	-	National Response Team
<b>FACT</b>	-	First Assessment Crisis Team	<b>NSF</b>	-	National Strike Force
<b>FAX</b>	-	Facsimile Machine	<b>NSFCC</b>	-	National Strike Force Coordination Center
<b>FCC</b>	-	Federal Communications Commission	<b>NTNCWS</b>	-	Non-Transient Non-Community Water System
<b>FEMA</b>	-	Federal Emergency Management Agency	<b>OPA</b>	-	Oil Pollution Act
<b>FOSC</b>	-	Federal On-Scene Coordinator	<b>OPS</b>	-	Office of Pipeline Safety (DOT)
<b>FR</b>	-	Federal Register	<b>OSC</b>	-	On-Scene Coordinator
<b>FRDA</b>	-	Freshwater Resource Damage Assessment	<b>OSHA</b>	-	Occupational Safety and Health Administration (USDH)
<b>GIS</b>	-	Geographic Information System			

<b>OSLTF</b>	-	Oil Spill Liability Trust Fund
<b>OSPRA</b>	-	Oil Spill Prevention and Response Act
<b>OSRO</b>	-	Oil Spill Response Organization
<b>PCB</b>	-	Polychlorinated Biphenyls
<b>PFD</b>	-	Personal Flotation Device
<b>PGR</b>	-	Pager
<b>PHMSA</b>	-	Pipeline and Hazardous Materials Safety Administration
<b>PIAT</b>	-	Public Information Assist Team
<b>POLREP</b>	-	Pollution Report
<b>PPE</b>	-	Personal Protective Equipment
<b>PPM</b>	-	Parts Per Million
<b>PSD</b>	-	Prevention of Significant Deterioration
<b>QI</b>	-	Qualified Individual
<b>RACT</b>	-	Reasonably Achievable Control Technology
<b>RCP</b>	-	Regional Contingency Plan
<b>RCRA</b>	-	Resource Conservation and Recovery Act
<b>RECON</b>	-	Reconnaissance
<b>RQ</b>	-	Reportable Quantity
<b>RRT</b>	-	Regional Response Team
<b>RSPA</b>	-	Research and Special Programs Administration (replaced by PHMSA)
<b>SARA</b>	-	Superfund Amendments and Reauthorization Act
<b>SCBA</b>	-	Self Contained Breathing Apparatus
<b>SDWA</b>	-	Safe Drinking Water Act
<b>SERC</b>	-	State Emergency Response Commission
<b>SIC</b>	-	State Implementation Plan
<b>SMT</b>	-	Spill Management Team
<b>SONS</b>	-	Spill of National Significance
<b>SOP</b>	-	Standard Operating Procedure
<b>SPCC</b>	-	Spill Prevention, Control and Countermeasure

**Glossary of Terms & Acronyms****Acronyms**

<b>SSC</b>	-	Scientific Support Coordinator (NOAA)
<b>STEL</b>	-	Short Term Exposure Limits
<b>SUPSALV</b>	-	United States Navy Supervisor of Salvage
<b>SWD</b>	-	Salt Water Disposal
<b>TSCA</b>	-	Toxic Substances Control Act
<b>TPDES</b>	-	Texas Pollution Discharge Elimination System
<b>TSDF</b>	-	Treatment, Storage or Disposal Facility
<b>UCS</b>	-	Unified Command System
<b>USACOE</b>	-	U.S. Army Corps of Engineers
<b>USCG</b>	-	U.S. Coast Guard
<b>USDA</b>	-	U.S. Department of Agriculture
<b>USDL</b>	-	U.S. Department of Labor
<b>USDOD</b>	-	U.S. Department of Defense
<b>USDOE</b>	-	U.S. Department of Energy
<b>USDW</b>	-	Underground Source of Drinking Water
<b>USFWS</b>	-	U. S. Fish and Wildlife Services
<b>USGS</b>	-	U. S. Geological Survey
<b>WCD</b>	-	Worst Case Discharge



## **AGENCY CORRESPONDENCE**

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# **SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN**

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**Blanchard Refining Company LLC – Galveston Bay Refinery**

**SPCC Plan is located on the Environmental Share Point Site, IMT Room, Open Text File 4E02, and Environmental Department Hardcopy File.**



Bharat Contractor  
Environmental Manager  
Galveston Bay Refinery

## **Blanchard Refining Company LLC**

A subsidiary of Marathon Petroleum Company LP

P. O. Box 401  
2401 5th Avenue South  
Texas City, TX 77592  
Tel: 409.945.1011  
Fax: 409.941.8292

April 09, 2015

CERTIFIED MAIL# 7003 1010 0003 8926 1436  
RETURN RECEIPT REQUESTED  
USEPA, Oil Team (6SF-PO)  
1445 Ross Avenue, Suite 1200  
Dallas, TX 75202-2733

RE: Blanchard Refining Company LLC -Galveston Bay Refinery  
Integrated Contingency Plan No.: FRP-06-TX-00142  
Updates and Corrections April 2015

To Whom It May Concern:

Blanchard Refining Company LLC- Galveston Bay Refinery located in Texas City, Texas submits the following updates and corrections to the March 2013 ICP. The revisions and replacement pages are as follows:

- Pages after Cover Page - Revised QI Appointment Letter
  - Replaced Old QI Letter Date Feb 1, 2013 with New QI Letter Dated Oct 20, 2014
- Pages after EARP -2- Revised QI Appointment Letter
  - Replaced Old QI Letter Date Feb 1, 2013 with New QI Letter Dated Oct 20, 2014
- Page EARP-8- Revised QI Personnel
  - Replaced Page EARP-8
- Page FWD-iii Updated Revision Record
  - Replaced Page FWD-iii
- Page 2-2- Revised QI Personnel
  - Replaced Page 2-2
- Page A-10 Typo in footer
  - Replaced Page A-10
- SPCC Tab Page 1 -changed company document database system from Documentum to Open Text
  - Replaced Page 1
- Pages G-2 -Updated Instructions for Conducting Quarterly QI Exercises changing document control person from Ray Meyers to Mark Garvin.
  - Replaced Page G-2

Donald P. Smith, Region 6  
United States Environmental Protection Agency  
April 9, 2015

As required by 40 CFR § 112.20(d)(2), Blanchard Refining Company LLC- Galveston Bay Refinery submits an electronic copy of the ICP referenced above. Please discard or archive your existing electronic file and replace with the enclosed.

If you have any questions or comments please contact Mark Garvin by phone at 409.941.8301 or by email at [avmyers@marathonpetroleum.com](mailto:avmyers@marathonpetroleum.com).

Sincerely,



Bharat Contractor  
Environmental Manager

RP/dr  
Attachment

Donald P. Smith, Region 6  
United States Environmental Protection Agency  
April 9, 2015